THE AMERICAN ELEVATOR AND GRAIN TRADE

Printed in U. S. A. *Entered as second-class matter June 26, 1885, at the Post Office at Chicago, Illinois, under Act of March 3rd, 1879* Established 1882

PUBLISHED BY Mitchell Brothers Publishing Co. | A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS | One Dollar Per Annum SINGLE COPIES, 15 CENTS

VOL. XLVIII 431 South Dearborn Street, Chicago, Ill., February 15, 1930 NO. 8

DIAMOND RUBBER CO. INDUSTRIAL NEWS

Diamond grain belts operating in Houston's public grain elevator

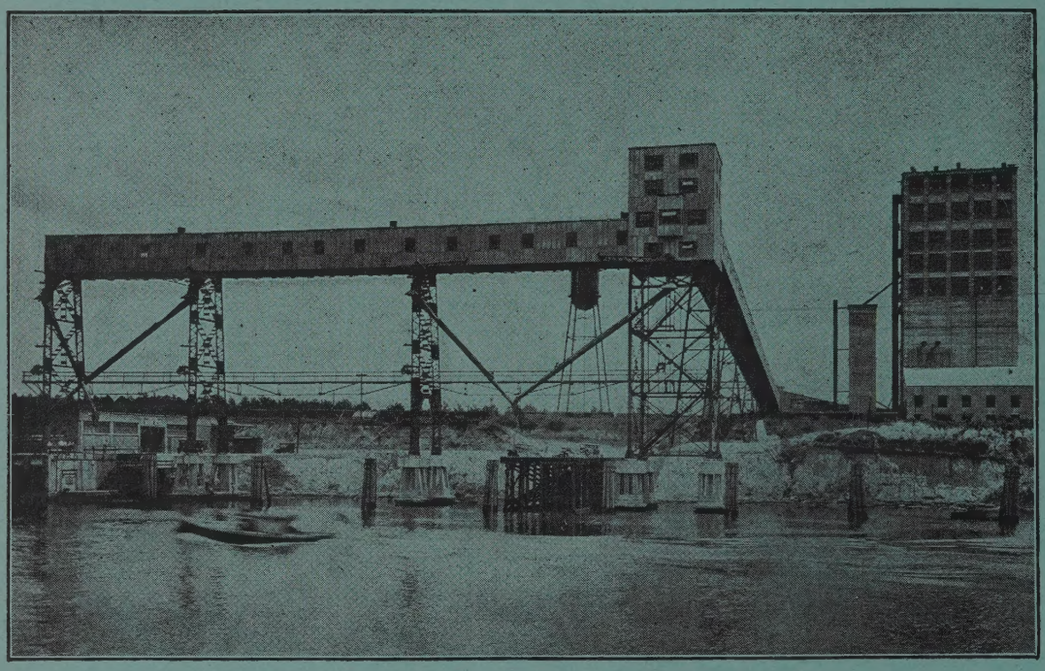
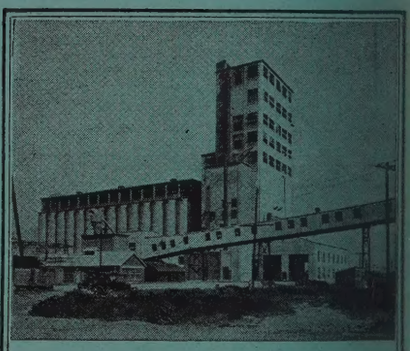


Photo shows shipping gallery extension of the public grain elevator operated by the Port Commission of Houston, Texas. Shipping gallery extension designed and erected by John S. Metcalf Co., machinery and spouting by Webster Mfg. Co Diamond grain belting used

IN THE public grain elevator operated by the Houston Port Commission 5,907 feet of Diamond grain belting are in operation. The two belts in the shipping gallery, illustrated above, have a carrying capacity of 25,000 bushels per hour each, distributed through any of the seven dock spouts.

The choice of Diamond belting for this grain elevator is easily explained. Through the development of special non-oxidizing friction rubber, Diamond grain belts stand the test that time alone can make. They resist the deteriorating effect of years of service. It is significant that Diamond grain belts, totaling over *twenty-five miles in length*, are operating in 62 different plants, located in 54 cities, in sixteen states, and two Canadian provinces.



Another view of the Houston public grain elevator, showing elevator and first section of shipping gallery. Diamond belts used to increase capacity and rapidity of handling

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A monthly journal devoted to the elevator, grain, hay, feed and seed interests.

Official paper of the Illinois Grain Dealers Association.

Established in 1882.

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Published on the fifteenth of each month by Mitchell Bros. Publishing Co., 431 So. Dearborn St., Chicago, Ill.

Subscription price, $1.00 per year.
English and Foreign subscription, $1.75 per year.

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VOL. XLVIII CHICAGO, ILLINOIS, FEBRUARY 15, 1930 NO. 8

Additional Tanks Increase Capacity of Minneapolis Plant to 1,250,000 Bushels

Continental Grain Company Provides Space for the Heavy Crop Movements Encountered in Serving Mills and Eastern Markets

By ALBERT WHIPPLE MORSE

OFFICERS of the Continental Grain Company, Minneapolis, were leaders in that group of progressive grain men who foresaw the heavy demand which crop movements made on terminal elevators in the fall of 1929 and they enlarged and improved their storage and grain conditioning facilities accordingly. With the 1930 crop not many months ahead, the Continental elevator is equipped to care for whatever further requirements may arise in the handling of Northwest grain. Machinery of the most approved type and skillful design of storage space enable this elevator to receive, blend, and ship grain with a minimum of time and effort, in this way increasing its efficiency to a point where the plant is able to render service of a high type to buyers of grain in the Northwest and elsewhere.

H. A. Murphy is president of the company, and other executives are B. J. Dodge, vice-president, and A. B. Marcy, secretary and treasurer. The general superintendent is A. C. Anderson. Offices are in the new building of the chamber of commerce.

Eastern markets form an important part of the territory which is served by the grain trade of the Northwest. Buyers in the Atlantic states are quick to realize the superior qualities of wheat which flows through the Minneapolis terminal and they find in the 72,000,000-bushel storage capacity of Minneapolis, service facilities which form a necessary part of the movement of grain to the eventual consumer. It is the opinion of many grain men that the present Minneapolis storage capacity is sufficient to care for future needs which may arise in many years ahead and this space is being supplemented by new cleaning and handling facilities even now under construction at various elevators.

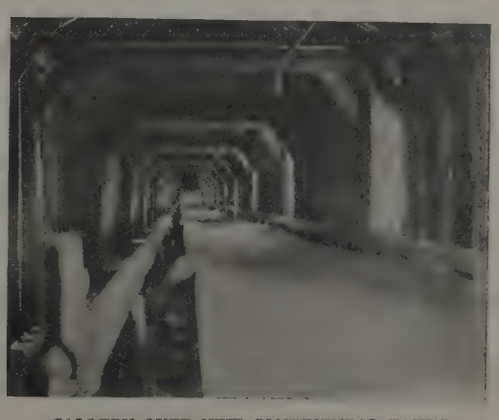
1,250,000-BUSHEL ELEVATOR OF THE CONTINENTAL GRAIN COMPANY, MINNEAPOLIS, MINN.

In 1922 the Continental Grain Company entered the markets of the Northwest, becoming a member of the Minneapolis Chamber of Commerce and of the Duluth Board of Trade in that year. Their need for elevator accommodations became greater as their business assumed larger proportions, and in August, 1927, they bought Elevator "D" from the Pioneer Grain Corporation that operated it then as a plant with a capacity of about 500,000 bushels. In the first year of their ownership the Continental added 150,000 bushels of storage, and with the concrete tanks which were completed in September, 1929, the capacity reached 1,250,000 bushels.

While the Continental Grain Company is a licensed commission concern and handles a certain amount of consignments from the country, its chief business consists in buying country-run wheat on the exchange floor, blending it to suit specific requirements of its customers, and selling it to Minnesota flour mills and to buyers in the eastern markets. They have in their elevator specialized machinery for bringing the grain to definite protein requirements in desired grades.

George Thompson is the elevator superintendent and his experience includes about 25 years with the trade. A terminal house in Kasota, Minn., operated by Hubbard and Palmer, was where he started and he remained there about eight years. Then he spent another eight years building elevators in South Dakota, North Dakota, Minnesota, and Montana, and in Canada, with a Minneapolis construction company. After a year with the Equity Co-operative Exchange he became identified with Elevator "D" of the Pioneer Grain Corporation in the spring of 1921. The workhouse burned in November, 1921, and Mr. Thompson became superintendent of Elevator "M," which was owned by the same interests, remaining there until August, 1922, when he returned to Elevator "D," which had

SUPERINTENDENT THOMPSON (LEFT) WITH CONTINENTAL CREW



GALLERY OVER NEW CONTINENTAL TANKS

been rebuilt. Two concrete tanks were added in 1925, and the expansion program continued gradually until the Continental Grain Company bought the property, when improvements were rapidly made to bring it to its present efficiency.

The elevator is situated on Great Western tracks, with room for spotting eight cars at a time coming into the house, and trackage for strings of waiting cars on the out and in tracks. Northern States Power Company furnishes central station service. Mr. Thompson is assisted by a crew of experienced grain elevator men.

The six new concrete tanks which were placed in service last fall, together with the new elevating and transmission machinery, are separate from the workhouse and other storage, the only connection being through spouting. A tunnel would have been dug through ground already occupied by pumps and the connection with the workhouse would have brought up a number of other problems. The workhouse is not high enough to accommodate a gallery connection with the new bins, and if there had been a common gallery, the new structure would have had to be sprinklered. The present arrangement is ideal from the standpoint of fire prevention.

It is believed that the new tanks are the largest individually in this section of the country, measuring 40 feet in diameter. They reach 110 feet from the surface of the ground. The leg which serves the new tanks is about 130 feet high, and has a 22-inch belt. Weller Manufacturing Company (Chicago) material is used in this leg, which is driven by a 60-horsepower induction motor through a speed reducer with a ratio of 24.4 to 1.

A 30-inch conveyor belt is housed in the gallery above the new tanks, as shown in a picture on the preceding page. It is driven by a 25-horsepower General Electric Induction Motor on the side of the leg over five of the tanks, with a 900-58 r. p. m. speed reducer. The short part of the conveyor belt, which brings the grain to a spout running into the work house, is driven by a 5-horsepower General Electric Induction Motor through a 1200-57 r. p. m. speed reducer.

Disc separating machines, and three Monitors supplied by the Huntley Manufacturing Company are included in the cleaning equipment.

CHALLENGES WORTH OF ADVICE TO CUT WHEAT ACREAGE

The Federal Farm Board is "unduly alarmed" in issuing a warning to wheat farmers to prevent a surplus, according to an oral statement recently given by the Minnesota Commissioner of Agriculture, N. J. Holmberg.

"Controlling production is a big job," Mr. Holmberg said, "and it is difficult to say how successful it will be. I do not say that it is impossible to carry out such a program, but it is a big undertaking.

"We know that production and price received have a relationship to each other, but to try to control production may prove dangerous. Operating farms is not like running a factory.

"I think that the farm board may have become unduly alarmed as far as the Northwest is concerned. Farmers in this section of the country no doubt will stick primarily to their present crops.

"One fact which is necessary to face is that the large majority of our people understand that wheat is of a single characteristic, and to them it covers the whole field. To us who have been in the business it means much more. The wheat raised in the Northwest is Hard Spring, and a very choice berry, while that raised in the territory south of us is of the Winter type, and is a Soft wheat of a quality, for milling purposes, inferior to our product. In order to produce a high-grade flour, Winter wheat must be blended with Spring wheat.

"I have been a resident of the Red River Valley since 1884 and have had opportunity for observing the great differences in crops from year to year. The difference in the yield on the same farm, as between succeeding crop years, has convinced me that the advice which has been given to the farmers at different times to curtail production was based entirely upon technical conclusions. It may be that I belong to the old school; but I have always felt and see no reason now for changing my mind, that the farmer is the best judge of how much grain he should sow of the various kinds."

FARM BOARD DEFENDS SELF

The future policy of the Federal Farm Board will be to lend money from the revolving fund to the national commodity marketing organizations being set up by the board, according to a review of the board's activities for the first six months, made public on January 31 In the absence of these central associations the board has advanced money directly to qualified co-operatives.

The board's commitments to farmers' co-operatives from the $150,000,000 made available from the $500,000,000 revolving fund authorized in the Agricultural Marketing Act totaled $58,690,000 up to January 14, 1930.

"The board," it is pointed out in the review, "is not composed of super men, but they are men who have had wide experience in agricultural problems and are earnest in their efforts to make the act effective.

"They accepted places on the board realizing the great responsibility they were assuming. They view the agricultural problem as one of the vital, if not the most vital, problems confronting the country today.

"There are two systems which the board may follow in aiding farmers. The first is through the farmers' own co-operative marketing organizations; the other is through stabilization corporations. The former is a long-time proposition, while the latter is of an emergency character.

"It is impossible for the board to deal directly with the individual producer. Congress realized this and provided that the board should deal with farmers and ranchers through producer owned and controlled co-operative associations.

"The board's chief function in aiding farmers is in the marketing of their products. The members realized from the beginning that no stereotyped marketing plan could be used in the development of a marketing system for all kinds of agricultural products."

CANADIAN GRAIN REPORTED

The final estimate of the 1929 Canadian wheat crop at 299,520,000 bushels is an increase of 5,621,000 bushels over the previous estimate, but 27,206,000 bushels below the 1928 crop, it was announced on January 25 by the Dominion bureau of statistics at Ottawa, in its final report for the season.

The estimate of the rye crop has been increased to 13,161,000 bushels as compared with 14,618,000 bushels in 1928.

There has been a small increase in the estimates for the feed grains since the November report. The estimate for the oats crop has been increased by 2,568,000 bushels to 282,838,000 bushels. This figure is still, however, 37.4 per cent below the 1928 harvest. The estimate of the barley crop has been increased by 1,846,000 bushels, to 102,313,000 bushels, which is 25 per cent below the 1928 production.

The estimate for flaxseed also shows an increase over the November estimate. The crop is now reported to be 2,060,000 bushels compared with the November estimate of 2,007,000 bushels but is still 43 per cent below the 1928 production of 3,614,000 bushels.

BANKER BEHIND STORAGE PLAN

Commenting on the "agitation for increase in bulk grain storage facilities," the *Commercial Review*, Portland, Ore., states that the Spokane (Wash.) Chamber of Commerce has had a committee at work on this project for some time.

R. E. Shepherd, board chairman of the Federal Land Bank and president of the Idaho State Chamber of Commerce, is the latest adherent to the plan. His message to the chamber is quoted as follows:

"Storage of wheat is one of the vital questions in the orderly marketing of that product. There is no such thing as a surplus. No more is produced than is needed to prevent famine in some parts of the world. Put it in proper storage as near the source of origin as possible.

"You business men have got to take a part in this matter because whenever the farmer receives less for his product, his purchasing power is diminished. When you fully realize that the people cannot spend money unless they have it, you will have learned an economic fact."

GRAIN REPORTS SLATED

Official reports on crops, stocks, and condition of grain in the United States, will form a definite series beginning March 10, according to the February announcement of Secretary Hyde, of the Department of Agriculture. The dates are as follows:

March 10, 1930, Monday, 3 p. m., reports on stocks on farms on March 1; and shipments out of county of corn, wheat, oats, barley, and rye; and the merchantable percentage of the 1929 corn crop.

April 9, 1930, Wednesday, 3 p. m., reports on condition as of April 1 of Winter wheat, rye, and pasture; and for certain states reports on condition of oats.

May 9, 1930, Friday, 3 p. m., reports as of May 1 on area remaining for harvest, condition, and indicated production of Winter wheat and rye; condition of hay and pasture and stocks of hay on farms; and for certain states reports on condition of oats.

June 10, 1930, Tuesday, 3 p. m., reports as of June 1 on condition and indicated production of Winter wheat and rye; condition of Spring wheat, oats, barley, hay and pasture.

July 10, 1930, Thursday, 3 p. m., reports as of July 1 on acres for harvest, probable yield per acre and indicated production of Winter wheat and rye; stocks of wheat on farms; acreage, condition, and indicated production of corn, Spring wheat, oats, barley, flax, rice, tame hay, dry edible beans; acreage of soy beans, cowpeas, and velvet beans; and condition of wild hay, pasture, soy beans, cowpeas, and velvet beans.

August 11, 1930, Monday, 3 p. m., reports as of August 1 on stocks of oats and barley on farms; yield per acre and production of Winter wheat and rye; acreage of buckwheat, grain sorghums, and broomcorn; condition and indicated production of corn, Spring wheat, oats, barley, buckwheat, flaxseed, rice, grain sorghums, tame hay, dry edible beans, peanuts, apples, peaches, pears, grapes, potatoes, sweet potatoes, tobacco, sugar beets, broomcorn, and hops; and condition of wild hay, pasture, soy beans, cowpeas, and velvet beans.

September 10, 1930, Wednesday, 3 p. m., reports as of September 1 on probable yield per acre and indicated production of Spring wheat, oats, barley, and hops; condition and indicated production of corn, buckwheat, flaxseed, rice, grain sorghum, broomcorn, tame hay, and dry edible beans; condition of Alfalfa seed, Clover for seed, Timothy seed, pasture, soy-beans, cowpeas, and velvet beans.

October 10, 1930, Friday, 3 p. m., reports as of October 1 on yield per acre and production of Spring wheat, oats, barley, tame hay, and hops; probable yield per acre and indicated production of corn, buckwheat, flaxseed, rice, and grain sorghums; condition and indicated production of Alfalfa seed, Clover seed, Timothy seed, pasture, soy beans, cowpeas, and velvet beans.

November 10, 1930, Monday, 3 p. m., reports as of November 1 on stocks of corn on farms; weight per measured bushel of grains; estimates of yield per acre and production of corn, buckwheat, flaxseed, rice, grain sorghums, broomcorn, and dry edible beans.

December 17, 1930, Wednesday, 3 p. m., reports on revised acreage, yield per acre, production and value of corn, Winter wheat, Spring wheat, oats, barley, rye, buckwheat, flaxseed, rice, grain sorghum, hay, Alfalfa seed, Clover seed, Sweet Clover seed, Timothy seed, dry edible beans, and soy beans.

The final report of year will be released on December 19, giving acreage and condition of Winter wheat and rye for harvest in 1931.

Preventing Losses by Fire

Why 80 Per Cent of All Elevator Fires Could Be Avoided by Exercising Sufficient Precaution

DISASTROUS elevator blazes, the most recent being the terminal fires at Chicago, Minneapolis, and Cleveland which aggregated a total loss of $2,500,000, are too often passed off with a shrug of the shoulders by elevator men who seem to adopt that extremely human doctrine, "It happened to the other fellow but it can't happen to me." They pass over the point that fire strikes suddenly and without warning, and unless it is checked in its early stages its destruction is complete.

According to the Mutual Fire Prevention Bureau of Chicago, 80 per cent of all elevator fires, terminal and country, are preventable, for the cause of nearly every fire might have been discovered and the loss prevented by careful attention to the elimination of the conditions known to contribute to fire loss. It is a matter of record that $1,000,000 is lost annually in country elevator fires alone.

In the three terminal losses mentioned, two—the Schwill Elevator in Chicago and the Sterling Elevator at Minneapolis—were traced to dust explosions, while the Cleveland conflagration originated in an over-heated drier which ran through one of the grain pits. Dust explosions, while not the most common cause of fire, are usually the most disastrous for there is no way of stopping them—once they have occurred.

According to the theory of an official of a Canadian organization, explosions are caused when dust becomes dense enough in a given area and absorbs the free moisture in the air. Dust in this condition is ripe for an explosion. The friction of belts or loose machinery may be sufficient to touch it off, or even a disturbance outside the building.

It is not as difficult to prevent these explosions, and other types of blazes, as many elevator men seem to believe, it being strictly a matter of exacting and scientific precaution. In a paper discussing fire prevention in grain elevators, Eugene Arms, of the Mutual Fire Prevention Bureau, makes the following statements:

"Fire prevention is not the difficult task that it has been made to appear. The causes contributing to fire are known and tabulated and can be applied to any risk, or to an industry if the industry will get behind the movement. All that needs to be done is to remove the contributing and direct causes of fire and a very large part of them will have been prevented.

"Fire prevention starts with the construction of the building itself. It would be ideal if all buildings could be built of fire resistive material and contain no combustible machines or products. This is not as yet practical, even on all new buildings, but, keeping that in mind as the ideal, we may work to it insofar as is practical. There is no longer excuse or reason for the highly inflammable shingle roof. Good grades of metal or composition roofing may be had at scarcely more expense. Nearly every spreading conflagration has been caused directly by the shingle roof hazard. They do not, therefore, endanger only the property that they cover, but all property within a large radius.

"A good grade of rust-resistive iron siding is not more expensive than wood clapboarding. Then, for practically no expense, we may go a step further and completely cover the elevator, roof, sides, eaves, cornices and window sills with fire resistive material, and screen the windows with heavy galvanized 1/8 or 1/4-inch mesh wire screen, thereby eliminating practically every possibility of fire originating on the outside surface, except from exposure to other combustible property or lightning. The possibility of destruction from the burning of adjacent property cannot be entirely eliminated, but good iron cladding goes a long way toward protection, and lightning is no longer excusable as a cause of fire. A carefully-kept record of fires covering thousands of elevators, both protected and unprotected, reveals not a single damage to an elevator that was protected by lightning rods even approximately in accordance with modern practices, nor on a single house which was fully iron cladded with sides grounded according to specifications.

"The machinery hazards are the greatest contributing causes of fires in grain elevators. A well built building is the first essential of well installed machinery. Machines must have firm foundations, and then they must be installed by an experienced mechanic. The installation of elevator machinery is a trade that must be learned, particularly the installation of the elevator leg. To be right, the elevator leg must be entirely free from the main structure of the elevator and must be suspended from the top on its own structural work so that the elevator might be torn down and the leg left standing. The head shaft and drive pulley must, of course, be a part of the same independent structure. Otherwise, the strain and stress of the loading and unloading of the bins and the natural settling of the house will throw the elevator leg out of true.

"No other one thing causes so many fires in elevators as the elevator leg. A properly constructed leg at the start is essential, but constant attention and care must be given the leg. A loose belt permitting the buckets to drag and catch, or an improperly regulated feed permitting the elevator to choke, will stop the belt, and in a very short time the friction of the revolving pulley on the belt will cause fire in the head. Or the elevator or pulleys may be out of true, causing the belt to run to one side and rub on the inside of the elevator leg. The friction under these conditions may cause fire very quickly. The elevator leg must be built right and kept right. Otherwise fire is the inevitable result.

"Every lineshaft bearing, cleaner bearing, or grinder, if the elevator is equipped to grind feed, is a potential fire hazard. No bearing should ever be run after it has been found to be hot, or ever left without watching until it is sufficiently cool to hold the hand on with comfort.

"At least three types of roller and ball bearings have recently demonstrated their efficiency and adaptability to the elevator. Those who have installed them report excellent results in saving in power. They do away with the old job of oiling except at long intervals and practically eliminate all possibility of fire from a hot bearing.

"The generation of power always entails the generation or conversion of heat, and the apparatus is always hazardous when improperly installed. The installation of power equipment in an elevator has been studied by the engineering departments of the insurance companies to the end that it is now possible to install any type of power in a manner that is thought by the insurance companies to be entirely without hazard and for which no charge is made in the insurance rate.

"Power equipment for an elevator requires the services of an expert. Every large insurance organization maintains a service department to give just this type of service. Those companies specializing on mill and elevator work have worked out the standards of various types of power and furnish blue print specifications on the individual job. No power installation should be made without this service.

"Constant attention to the minor repairs is essential to fire prevention. The plant is always on the railroad siding, and a broken window light may cause the loss of the entire plant. Loose siding or a bird's nest in the eaves, a lightning rod pulled loose from its ground, the settling of the building into contact with a running shaft, shafting that has been thrown out of line, bearings in which the babbitt has worn thin, electrical fuses that have been replaced with fuses of larger size or wire, gasoline engine exhaust pipes that have worked over into contact with wood, chimneys that have cracked with age or with the settling of the building, or any one of any number of things may contribute to the possibility of fire. Fire prevention consists simply of the elimination of every known possibility."

CLOGGED SPRINKLERS TURNED A SMALL ELEVATOR FIRE INTO A BIG ONE AT NASHVILLE, TENN.

FIRE-FIGHTING APPARATUS

Proper fire-fighting equipment, as barrels of water, stand pipe, and fire extinguishers of one and two quart sizes, will reduce the danger from flames and at the same time cut down insurance rates for deductions are made for all such precautions taken.

Care must be exercised in seeing that the barrels or pails of water are protected from freezing, for cold snaps and fires very often go together. Calcium chloride is recommended as the best antifreeze preparation, the following quantities being necessary at the temperatures given: One pound to a gallon of water for 27 degrees above zero,

three pounds for one degree above, and four pounds for 20 degrees below zero. It is not advisable to imitate the elevator operator who refused to put in an anti-freeze solution because, as he contended, "If the elevator did burn, the fire would thaw out the water, anyway."

All one and two quart pump extinguishers require testing at least twice a year. The nozzles tend to corrode and the pumps to dry out and become inoperative. The carbon tetrachloride, which is the chemical used in these extinguishers, sometimes evaporates, leaving the extinguisher empty or only partially filled. To test the apparatus simply take a short stroke of the pump and if the stream is strong and the weight indicates a full extinguisher, replace the plunger.

Protein as a Problem of the Country Elevator

By E. A. STOKDYK AND A. C. HOFFMAN*

HIGH-PROTEIN premiums make it difficult for the country elevator operator to buy wheat on a basis that is equitable to the individual farmer and to the management. That the practice of buying on the average protein of the wheat shipped from a particular loading point is not entirely satisfactory is evidenced by the fact that wheat is hauled long distances to otherwise non-competitive points to secure the advantage of a better price at the station where the protein average is higher. Furthermore, farmers are securing protein tests and are demanding premiums for high protein wheat in accordance with terminal market premiums. In the spring of 1928 protein premiums were extremely high, and it is impossible to estimate the market value of wheat within 10 cents a bushel without a protein test. It is not uncommon, therefore, to find a variation in price of 10 cents per bushel at a given station, as the estimates placed on the value of the grain by elevator operators varies considerably.

How to arrive at a fair basis of dealing is the big problem. The farmer asks, "How can I sell my wheat and get the protein premium that is due me?" The elevator operator asks, "If I buy on a protein basis, how shall I determine the protein and how close can I buy?"

Many farmers are interested in producing high-protein wheat and have increased the protein content of their wheat in many cases by methods demonstrated at the Kansas State Agricultural College, but the majority of farmers will not make the effort unless they are paid individually for it. Before going into a discussion of a method for dealing in wheat on a protein basis it will perhaps be best to consider some of the fundamentals of protein testing so that a clear understanding of the protein problem may be had.

In the first place, the so-called protein test is a chemical determination of the nitrogen content of wheat. Since the test is a delicate chemical test it is subject to error both in sampling and method. The test as conducted on wheat is made on an extremely small sample (one gram) and this in itself explains the cause of variation between samples drawn from an identical lot. In an average carload there are nearly 50,000,000 grams of wheat. When this is realized it is apparent that samples drawn from a carload can vary to a considerable extent, particularly if the car is not loaded uniformly. Even in a farmer's bin the protein content of the wheat may vary, because the wheat in one part of the bin may have been raised on a different type of soil than that of another part of the bin. Furthermore, it has been found that the protein content of the wheat from various parts of an individual field may vary considerably in accordance with the variation in soil type and fertility of the field.

In the second place, the protein determination as made commercially is not made on an oven-dry basis. That is, the moisture is not driven out of the wheat before the test is made. Consequently a sample of wheat with 14 per cent of moisture will show a lower per cent of protein than the identical sample of wheat would show if the moisture content were 12 per cent. Chemists state that 1 per cent variation in moisture content causes a variation of 0.15 per cent in the protein test. This no doubt explains the cause of the general experience that a small sample drawn from a bin or carload and mailed to a protein laboratory will show a higher per cent of protein than the test of the carload when it reaches market. The small sample loses moisture on the way to the laboratory so that, although the absolute amount of the protein of the wheat is unchanged, the drier sample will show a higher per cent of protein than the sample taken from the carload when it reaches market, since this has not had a similar opportunity to lose moisture before it is tested.

TEST ERRORS MAGNIFIED

Thirdly, in the calculation of the protein test, it must be kept in mind that the test is not in reality a protein determination but a nitrogen determination. To calculate the nitrogen in terms of protein it is necessary to multiply the nitrogen determination by the factor 5.7. Thus an error that may have been made during the process of determination will be magnified nearly six times. But that is not all. When protein is expressed in terms of percentage it is necessary to multiply by 100. This will magnify the error 100 times. In the end, then, an error in testing will be enlarged 570 times.

There are 10 important laboratory operations in making a protein test. These cannot be absolutely uniform because the human hand is not sufficiently accurate. Therefore a difference of 0.20 point is allowed in commercial tests. That is, if one test on a sample of wheat shows 12 per cent of protein and the second test shows 12.20 per cent of protein the tests are considered as within the range of experimental error.

The limitations of the test that have been considered are perhaps not as great a cause of variation as errors in sampling. One would suppose that samples taken from a small lot of wheat would show protein tests that check closely. This is not the case, however. A typical experience in this connection is that of a farmer in Ford County, Kansas, who drew four samples of wheat from a small sack and sent the samples to various protein laboratories for analysis. The results were as follows:

Sample No.	Per cent protein.
1	10.77
2	11.56
3	11.78
4	12.60

The experience of Charles Stark, of Iuka, Kan., shows a similar variation. He drew samples from a gallon of wheat and sent them to various protein laboratories. He reports:

Sample No.	Per cent protein.
1	10.76
2	10.84
3	11.00
4	11.00
5	11.03
6	11.12
7	11.13
8	11.35
9	11.35
10	11.40
11	11.70

To a chemist these records, considering the small lot from which the samples were drawn, are fairly close.

The difficulty encountered in drawing samples from a small lot, such as a gallon of wheat, is that the chances for error in sampling are greater than if the samples were drawn from a larger lot. This is a common experience in sampling. For instance, if one were to try to determine the average height of the people residing in Topeka, it would be more accurate to measure 100 persons than 10 persons. Grain inspectors have equipment which minimize the error in sampling, such as probes and mixers. This aids them in securing a more representative sample than one can secure by taking a handful from several parts of a load or bin. What has been said about the causes for variation in the protein test will no doubt explain some of the experiences that the farmer and grain buyer have encountered.

The problem of arriving at a fair basis of dealing on a protein basis at a country station is indeed a difficult one. The experiences shown are quite general and the fallacy of dealing on a protein test from a small lot of wheat is clearly demonstrated. In the data collected by Mr. Stark there is a variation between the high and low protein determination of almost 1 per cent. In some markets, that would mean 10 cents or even more per bushel.

However, the grain buyer does not buy gallons of wheat, but truckloads and wagonloads. The question then resolves itself into one of properly sampling the loads if the wheat is to be bought on a protein basis.

The elevator operator is interested in knowing how closely the samples drawn from the truckloads and wagonloads that he buys will check with the carloads he sells. To determine this, several elevator operators have co-operated with county farm agents and the writers in making tests on several carloads. Samples were taken from each load as it was delivered to the elevator and placed in a container. When a bin holding a carload was filled a composite of the samples drawn was mailed to the Kansas State Grain Inspection Department and the protein test of the composite sample compared with the protein test of the carload which was composed of the truck and wagonloads from which the samples were taken. The results were as follows:

Station.	Manager	Protein on carload.	Protein on samples.
Larned, Pawnee County	R. I. Brown	12.00	11.80
do	R. I. Brown	10.84	11.32
do	R. I. Brown	11.80	11.52
do	R. I. Brown	11.88	11.88
do	R. I. Brown	12.72	13.00
do	R. I. Brown	11.80	11.82
Garfield, Pawnee County	W. S. Prather	10.86	10.40
do	W. S. Prather	10.20	10.80
do	W. S. Prather	12.12	12.44
Castleton, Reno County	J. McCaffery	10.68	10.84
Haven, Reno County	W. Schlickau (3 cars)	11.79	12.52
Pawnee Rock, Barton County	A. S. Gross	10.84	11.08
do	A. S. Gross	10.95	10.97
do	A. S. Gross	10.76	11.00
Bellfont, Ford County	J. H. Showers	14.60	14.60
Ford, Ford County	J. L. Hipple	13.16	13.32
Average		11.69	11.83

The average of the 16 tests shows the samples testing 0.14 per cent higher than the carloads. In just 11 of the 16 trials this was the case. In three cases the carloads were the higher and in two cases the tests checked exactly. It appears, therefore, that sampling each truckload or wagonload is a more exact basis for determining the protein content than taking a handful from a bin, if one buys or sells on a protein basis.

The fact, however, that the samples tend to show a higher protein test than the carload must be taken into consideration. It is evident that a grain buyer cannot afford to pay on the basis of the protein shown in the samples. If he did he would be the loser. In determining how closely the grain buyer can afford to bid on a protein basis another factor must be taken into consideration, and that is the method of sale. When sales are made on a "track basis" the contract is usually made for a certain grade and protein test, with a premium of a few cents for each 0.25 per cent above the specified protein test and a discount of a few cents for each 0.25 per cent below the specified protein test.

To understand this better, let us take the il-

*Professor at State Agricultural College, Manhattan, Kan., and county agent, Larned, Kan., respectively; their report in the twenty-sixth biennial report of the Kansas State Board of Agriculture.

lustration where an elevator operator sells a carload of grain f. o. b. his station at $1.50 per bushel for No. 2 wheat testing 12 per cent protein. If, when the car arrives on the market, it tests 12.25 the country elevator operator receives a premium of two cents a bushel. If, on the other hand, it tests 11.75 his grain is discounted two cents per bushel. The premiums and discounts vary from time to time. However, if the grain tests 12.20 in protein the elevator operator does not receive the premium, and if the grain tests 11.90 his grain is discounted. This does not apply on consigned shipments. In view of the data presented and the rules of contract on track sales, the elevator operator must, then, to protect himself against loss, bid on a basis of at least 0.25 per cent below the protain test of the samples if he buys on a protein basis. The carload tests recorded were made during the winter and spring. It is likely that the difference between sample tests and carload tests would be greater at harvest time, when the grain has a higher moisture content. W. J. Kuhrt reports that tests on 88 cars in the Spring wheat belt shows samples averaging 0.74 per cent protein above the carloads. It is possible, too, that this may vary from season to season.

IMPORTANCE OF PROTEIN BUYING VARIES

The question of buying on a protein basis is not of the same importance at all stations. The average of the station is a factor that the elevator operator must consider. Even if a buyer were inclined to buy on a protein basis he could not do so on truckloads or wagonloads unless his station average were 11.25 per cent or better. The reason for this is that protein premiums are not paid on the terminal market unless the grain tests above 11.25 per cent. Consequently if the station were situated in territory where the average protein was only 10 per cent the purchase of a few loads of wheat with 12 or 13 per cent protein would not raise the protein average of the carload above 11.25 per cent. Where such a situation exists the buyer cannot afford to buy on a protein basis unless he can purchase an entire carload and load it separately. In higher protein territory where the station average is above 11.25 per cent each load that goes to make up the carload is important in determining the protein premium of the carload. Elevator operators have frequently stated that a few loads of very high protein wheat will raise the average of the carload sufficiently to make several cents difference in value on the carload.

It must be remembered that protein premiums are reflected to the farmer by territories. Local grain prices to farmers are as a consequence considerably higher in high-protein territory than in low-protein territory. However, this situation is not entirely satisfactory to individual farmers, and grain is hauled great distances to a higher-price zone. It is generally conceded that it would be desirable to pay the individual farmer on a protein basis. A practical method is wanted. It is hoped that this discussion will throw some light on the problem. It is realized that the sampling of each load would entail considerable effort during the period of heavy movement in harvest season in the Southwest.

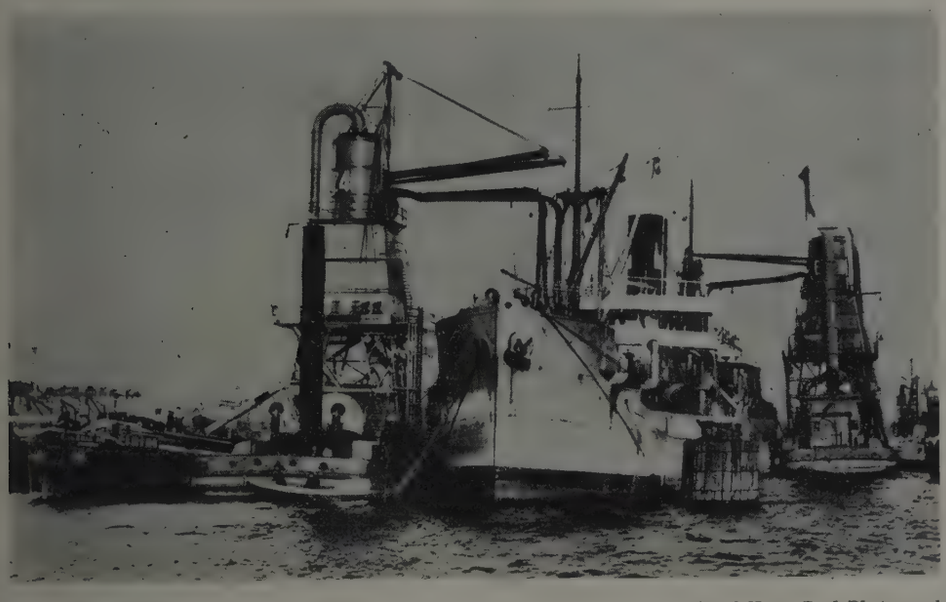
One man would be kept busy with a probe to do the sampling. Settlement on delivery would have to be made on the basis of low-protein wheat, and the premium paid for high-protein wheat after delivery and testing were completed. That is, each farmer would receive payment for his wheat at the time he delivered it to the elevator on the basis of low-protein wheat. Then, after the protein content was determined, he would receive a premium if his wheat tested high in protein.

A few stations have attempted it with satisfactory results. Whether it will become general will depend upon the terminal market premium for protein and the understanding of the problem of grain buyers and farmers, and the demand for this basis of buying on the part of the farmers. The demand is increasing, as evidenced by the fact that out of 200 Kansas wheat growers residing in 20 counties, 77 state that they have protein tests made on their wheat before they sell it.

THE PNEUMATIC CONVEYOR AT OCEAN IMPORTING POINTS

The pneumatic conveyor, a suction grain receiver adapted to importing countries that are hampered by fluctuations in tide, has never met with the general enthusiasm in this country that has been accorded it in many foreign nations, mainly because the United States, being primarily an exporter, has little use for special receiving legs while the few ports importing grain seldom have heavy tides.

Nations where importing is done on a large scale, however, have found the pneumatic conveyor preferable to the usual type of marine leg, especially in certain parts of South America. In thinking of grain-producing countries of the world, one is often accustomed to considering South America as a continent from which an enormous volume of grain is exported annually. In reality, only some of the South American countries export grain, namely Argentina, Uruguay, and Chile.



International News Reel Photograph

THE PNEUMATIC CONVEYOR AT WORK IN A FOREIGN PORT

In South America, it is not only the grain importing countries, like Brazil and Peru, which have shown an increasing interest in pneumatic conveying, but the same is true also of Argentina, although this is one of the notable exporting countries.

During 1927 the Moinho Fluminense in Rio de Janeiro erected two traveling pneumatic grain elevators. The suction trunks are introduced into the ship's hatch in order to bring out the grain. The grain sucked up enters the receiver where it is separated from the air current and whence a rotary cellular seal allows it to drop. Placed underneath the rails is a belt conveyor running in a channel. By means of this and a connecting cross-band conveyor, the grain is transported underground to the mill. The channel also contains the suction airline to which the elevators are connected, the air pumps being located in a special room. The suction pipes can be turned, raised, and lowered in every direction, flexible tubes greatly increasing their mobility.

The regular output per hour of these conveyors is 100 tons of heavy grain, although much greater quantities have been handled during tests. This is about one-fifth of the amount that is handled, as an average, by the type of grain receiver used here.

In the harbor of Buenos Aires, the Molinos Harineros y Elevadores de Grano have erected a stationary discharging installation. A difficulty was presented by the condition that no kind of supporting structure for the conveyor line was to be erected between the shore and the receiver in the granary. It was therefore necessary to attach a strong outrigger to the building itself. Here the mobility of the suction trunks in very direction is a notable feature. The hourly output of this conveying plant is 50 tons.

YOUR SIDE TRACK: A POTENTIAL SOURCE OF LOSS

By JAMES S. KEMPER

An elevator operator, whose plant has a railroad spur running into or alongside his property, probably regards the track as an indispensable convenience in the conduct of his business. In a large number of cases, however, his satisfaction might be somewhat tempered with uneasiness if he were fully acquainted with the legal obligations that his possession of a private side track imposes upon him. In most instances, in contracting for switch service from a railroad he has assumed liability for any property damage, or injuries or death to any person or persons, that may result from the railroad's operation on his spur. As a rule, the rental contract entered into by any operator who leases a side track, or his business property including the side track, from a railroad company, has buried among its multiplicity of provisions a paragraph similar in text to the following:

"The company also agrees to indemnify and hold harmless the railroad company for loss, damage or injury from any act or omission of the aforesaid operator, its employes, or agents, to the person or the property of the parties hereto and their employes, and to the person or the property of any other person, firm or corporation, while on or about said track, and if any claim or liability other than from fire shall arise from the joint or concurring negligence of both parties hereto it shall be borne by them equally."

Stripped of its legal verbiage this paragraph provides in substance that in the event a claim or suit to recover damages for destruction of property or injuries or death sustained as a result of the operation of the side track should be filed by any individual, firm or corporation, the duty of contesting the action or settling the claim or whatever judgment might be rendered, together with all the expenses incidental to the course taken, should devolve upon and be borne by the owner or operator of the mill or elevator.

As long as operations on a side track proceed without disturbing incidents the presence of a provision such as the above in the rental contract might not be considered sufficient cause for any great concern. However, let a single mishap or accident occur and this otherwise insignificant clause may suddenly assume tremendously threatening proportions, becoming, indeed, a club to beat the life from a flourishing business.

In considering the side track as a potential source of loss it must be remembered that it possesses all the hazards that are common to railroad operation. If, for example, the spur intersects a roadway or

an alley it compares with any railroad crossing as a point of danger. Should a switch engine operating upon it strike a motorist's car it is highly probable that claims for damage to the automobile and perhaps for the injuries or death of the driver and other occupants may be presented. In such event the operator's real liability under his rental contract brings him face to face with the possibility of sustaining what may prove to be a ruinous financial loss.

Not only such mishaps as crossing accidents possess big loss possibilities for the operator with a side track; should any workman or member of the public suffer injury or death as a result of the operation of engine and cars on the spur, equal liability exists.

Many proprietors, aware of their liability in connection with the operation of a spur track, are of the erroneous opinion that they are fully protected if they have ordinary public liability or premises liability and property damage insurance. Such, however, is not the case, for the liability attached to the operation of a railroad side track is not inherent to ownership or operation of the property or premises occupied, but is an acquired form of liability assumed by contract, requiring a special form of coverage especially designed to apply in such cases, known as contractural liability insurance.

If you have a spur track in conjunction with your plant you should familiarize yourself with the provisions of your railroad lease, definitely determining the exact extent of the liability you have assumed for any losses or claims that may arise out of the operation of the spur. If, as a result of your investigations, you find it advisable to secure the protection of a contractual liability policy, it will be the part of wisdom to make immediate application for such coverage to your insurance carrier. Without it you may one day find yourself confronted with the necessity of settling a damage claim of such proportions as could sweep away the very foundations of your business.

"Now It Can Be Told"

How Submarines and Weevils Threatened Destruction of Wheat in Million-Ton Lots and How Victory Was Won in Man's Greatest Single Battle With Grain Pests

By SEBERT HUMPHRIES

THE biggest recorded struggle against wheat pests happened in Australia in 1918 and 1919. At the end of 1916, our wheat commission bought from the Australian government 3,500,000 tons of wheat at a price which compared favorably with that asked by the United States. The deal was reckoned to guarantee England a supply and also to stabilize the finances of Australia.

But by 1917, submarine activity was slaughtering shipping, especially in the Mediterranean, this area suffering from the concentration of our navy in the North Sea and from conditions which favored the submarine. In consequence, deliveries became slower and slower, until the occasional dribble arrived with bags riddled by mice and the grain by weevil. With the pest increasing and with no hope of clearing the wheat rapidly, the commission sent out an entomologist and commercial representative.

In Australia they were delayed by official inertia and strikes. Once the farmers' wheat had passed into the hands of the state wheat boards, there was no specific party interested in its condition. In the absence of elevators, it was stacked in bags in the open, on the ground, with a rough roofing laid directly on top of the stacks.

Careless handling and a plague of mice broke the bags; stacks collapsed and the occasional heavy rains leaked through the roofing. Granary weevils, rice weevils, and flying beetles *(rhizopertha dominica)* bred prolifically in ideal conditions. Stacks of new wheat were laid against old infested stacks and "many million bushels of wheat have been destroyed," said a commissioner at the time. By 1917 the losses were spreading and potentially gigantic.

On his way out to Australia, the entomologist had consulted many American wheat authorities, including the Federal Agricultural Department at Washington, all of whom did everything in their power to help him by their own experience. In consequence his greatest difficulty on reaching Australia was not to find out how to tackle the colossal infestation, but to cause the rescue work to be put into motion, which was only done after delays.

When at last a start was made, the desired extermination of pests was achieved in three stages: Checking, complete killing, and prevention of recurrence.

A GAS ATTACK

Existing stacks were enclosed with timber and then hermetically covered and malthoid. Carbon dioxide was pumped in, suffocating all life inside the stacks except weevil-eggs and grubs, which would eventually, if given time and the necessary conditions of temperature and moisture, mature and carry on the work of their deceased parents. But the gassing was so speedy that by the end of May, 1919, about 2,000,000 bags had been so treated in South Australia and about 1,000,000 bags in Victoria.

The difficulty of killing eggs and grubs ruled out all methods except sterilizing by heat, which could be achieved at a reasonable cost and without damaging the quality of the wheat. Aspiration and sifting were useless; an electrical static charge of 63,000 volts had no effect on weevils; no chemical treatment, including di-chlor-benzine and chlor-naphthaline, would penetrate the stacks to kill the eggs within 36 to 48 hours. The absence of elevators was a further handicap. Therefore only heat treatment remained, and a method had to be found which was cheap, speedy, simple and sufficiently mobile.

What price glory in running grain freighters through a submarine blockade if cargoes arrive "with bags riddled by mice and the grain by weevil"? In peace time grain pests are a tremendous source of loss. But during wars the mites, mice, and weevil—even as the submarine—can bring about a national crisis.

The story on this page is part of the introductory material used by Mr. Humphries in "Pests in Wheat and Its Products," another of the valuable units in the technical education series published by the National Joint Industrial Council, London, England.

Many methods were tested, including direct-steam, hot flue gases heating the wheat in cylinders, heating by electricity, passing the wheat through steam-jacketed cylinders, passing the wheat between radiators as in mill conditions, direct hot flue gases, boilers containing cylinders through which the wheat passed, and passing wheat through a chamber filled with steam coils, this last being adopted.

A colonial boiler working with any fuel, including rubbish from wheat, supplied 3,000 to 4,000 pounds of steam per hour at a pressure of 100 pounds, which was reduced to 15 or 20 pounds before passing into staggered pairs of thin pipes arranged in tiers across a heating chamber of dimensions about eight feet cube. The pipes had a slight slope to one side, leading to a water trap to remove condensation. The water was returned to the boiler. The heating chamber had an aspirated sieve-top of such mesh as to sift out material larger than wheat, and so shaken by power from the boiler as to remove the rubbish and to distribute the falling wheat over the pipes below. At the bottom of the cone-shaped base to the chamber, an aspirated shaking sieve of small mesh extracted dust and dead pests, the wheat passing through a mechanically operated reciprocating cut-off device into a conveyor, thence into a power-driven elevator and so into hoppers fitted with slides and spouts for bagging off. The aspiration of the sieves were conducted to a cyclone. On starting up the plant, the wheat could be automatically circulated so that it passed repeatedly through the heating chamber until the required temperature was reached. The exhaust of the small long-stroke slow-speed horizontal steam engine was allowed to escape into a chamber in which the emptied wheat bags were inserted on sliding rods fitted with hooks, so that by such sterilization there should be no living pests left in the bags when they were refilled.

The whole combination of boiler, engine, heating and sterilizing chambers, sieves, elevator, cyclone and hoppers, could be mounted together, so that they could be fitted to a railway truck when desirable. The standardized plant had a guaranteed capacity of 1,000 bushels an hour, and cost about £3,000. The estimated total working cost was 3½ pence per bushel.

The temperature of the wheat was raised to 140 degrees Fahrenheit and was watched by means of a thermograph. Three to four minutes inside the heating chamber rendered the wheat immune from weevil unless it subsequently became wetted. The baking quality and nature of gluten was in no way impaired. "To demonstrate the effectiveness of our sterilization process," wrote a commissioner, "we may say that hundreds of thousands of bags dealt with by our process remained absolutely free from weevil for many months, while the wheat that was simply mechanically cleaned became weevil infested again in a comparatively short time. In our offices we have samples of sterilized wheat which are still free from weevil after nine or ten months, while similar wheat, simply cleaned, has become riddled with the pest in a comparatively short period."

In passing through the heating chamber the wheat lost moisture, and probably became too dry to support insect life, the critical figure being about 12 per cent in the case of wheat. If then the sterilized wheat was not allowed to become damp, the chances were that further infestation was impossible. All that remained to be done was to stack the wheat, and also new un-infested wheat, in such a way as to discourage all pests.

It was therefore found advisable to build the stacks upon railway sleepers laid one and a half to two feet apart, two or three high, each layer at right angles to the next, the top layer of the foundation covered with boards and hessian or other cloth to collect any spilt wheat trickling down through the stack. The roofing had to be supported on uprights clear of the wheat so that the collapse of a stack would not cause a rupture, as in the cruder form of roofing previously used. The ground beneath was dusted with naphthaline lime mixture, or tar oil in powdered form, or other insecticide powder. The importance of avoiding burst bags and spilt grain was emphasized. An attempt was made to suck up by vacuum any insects lying on the ground, but this was found to be impracticable. At least a hundred yards had to separate a sterilized stack from an infested stack, since some of the six different insects at work were powerful flyers, while even the crawlers were capable of considerable movement;

laboratory observations in America have given the average speed of mites, the smallest of all the ordinary pests of stored food products, as two inches a minute.

By these methods a disaster was avoided, and by the end of 1919 the last of the huge purchase was being shipped. The purchase price of the contracted wheat was £26,600,000.

The entomologist estimated that if nothing had been done to check the pests, the total loss would have been about £11,500,000 on all wheat existing in Australia in 1918-1919. The cost of treatment amounted to a quarter of a million. Claims for deterioration, loss of wheat on account of weevil, loss in weight by extraction of extraneous matter, weevil dust and moisture during the process of cleaning and sterilization, totaled slightly more than half a million pounds. The net result of all damage, delay, treatment, claims and administrative charges was that the cost per quarter, free on board, with interest added, amounted to 45/3. And it had been reported originally that "failing treatment, it is likely that, say 75 per cent of this infected wheat will be lost and another 10 per cent clean wheat attacked." Later a royal memorandum reported that "the loss that the British government will be called upon to bear will be small, certainly less than 2 per cent. The smallness of the loss will be found to be largely due to the measures initiated by the royal commission to combat the evil."

It may not seem possible that there will ever again be such a really desperate struggle against wheat insects. In any case so much was then learned that it should not again be possible for an outbreak to reach a threatening stage.

Grading Grain in the Country Elevator

By J. F. WELCH, Associate Marketing Specialist, H. P. ENGLISH and W. P. CARROLL, Senior Marketing Specialists in the Grain Division of the U. S. Bureau of Agricultural Economics

TO THE country elevator manager who recognizes the necessity of considering the grades of the grain he purchases, an adequately equipped and properly operated grain-grading laboratory is indispensable.

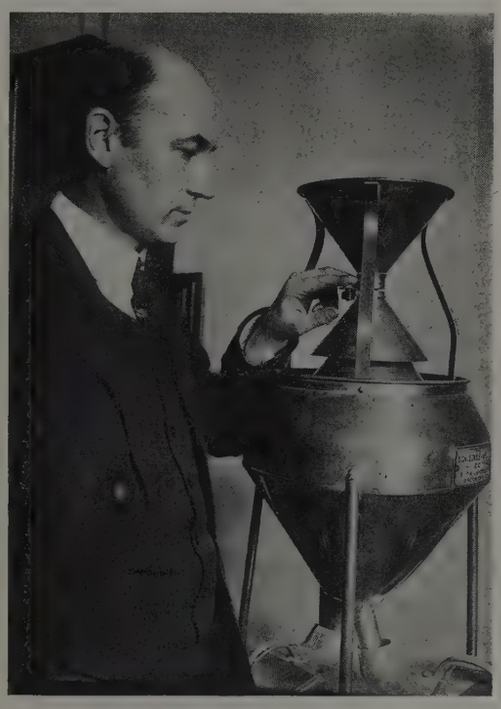
Advantages will accrue to the operator who has so equipped his plant and who has familiarized himself with the Federal grain standards to an extent whereby he is competent to apply the standards accurately. His laboratory undoubtedly will attract producers from the surrounding territory who wish information concerning the probable grade of their crops. If, in time, he becomes recognized as a dependable advisor on grain-grading questions, this prestige will give him a decided trade advantage in his community through the numerous contacts he will have with farmers, whether they come with the intention of selling or not. The information that he acquires from seeing samples of a large percentage of the crop in his locality will be a distinct advantage to him when he comes to buy, for he will know where to go for the different qualities of grain that will be in good demand, possibly at premiums, in the different markets to which he ships. Through his knowledge of grading and the possession of a fully equipped grain-grading laboratory, he can, when buying, keep constantly in mind, the grading of his shipments that will take place at the terminal markets. If he has facilities for segregating and storing separately the different grades of grain and facilities for mixing in order to obtain a desired grade of grain, such a knowledge and such a laboratory are especially beneficial.

For a successful laboratory it is necessary to have the required mechanical grading equipment that is used in determining the several socalled mechanical factors of the United States grain standards. To grade all kinds of grain the following apparatus is necessary: A standard weight per bushel tester, a motor-driven wild oat kicker with the required riddles and sieves, a modified type Boerner divider, a two-compartment Brown-Duvel moisture tester, an accurate scale of at least 500 grams capacity, with weights, a set of dockage sieves and a grain trier (probe). The entire cost of this grading equipment amounts to approximately $300.

This amount can be reduced somewhat by purchasing a bucket and beam weight-per-bushel tester, a hand-driven instead of a motor-driven kicker, and an alcohol or gas-heated moisture tester instead of the electrically heated tester. But as accuracy in mechanical determinations is the most essential element in arriving at the correct grade of the grain, and as certain standardized adjustments of equipment have been established in order to obtain uniformity in grading results, it is most desirable to have the apparatus equipped as first outlined so that it can be regulated properly and maintained in standard adjustment. Therefore, it is not recommended that economy be practiced at the expense of efficiency.

Country elevators located in certain grain-producing sections may not need all of this equipment. For instance, an elevator located in the corn belt will probably have no need for a kicker. In the arid wheat-producing sections of the Pacific Northwest, the moisture tester might be dispensed with, and so on. Each elevator manager can decide this matter according to his requirements.

The greater part of the grain offered for inspection and grading at the different points of inspection is in bulk lots. The initial steps in arriving at the grade of any grain is the taking of the sample, which sample should be as representative of the grain as circumstances permit. The most satisfactory device as yet made for sampling grain is the 60-inch, double-tube trier, the inner shell of which is divided by partitions into 10 separate compartments. This type of grain trier is used in all offices of the Department engaged in the administration of the grain standards Act. The experience of many years brought about the development and improvement of this trier so that at present no other type of trier approaches it for accuracy in performance. The trier should be made of No. 16 gauge brass tubing, in order to supply sufficient strength and rigidity and to eliminate bending if the trier is used with ordinary care. It should have a fairly sharp point so that it may be easily pushed down its whole length into the grain.



E. G. BOERNER WITH EARLY MODEL OF DIVIDER APPARATUS INVENTED BY HIM

Mr. Boerner Still is in Government Service and the Boerner Divider Is Part of the Standard Grading Equipment Used by All Federal Grain Inspectors

If this particular kind of trier is used separate examination can be made of the portions of the grain drawn from different depths in the load. It is possible to secure a sample from any depth for grading purposes, which is especially desirable in cases where there are indications of fraudulent loading.

One type of grain trier in use consists of a hollow steel tube with slots machined on one side, with a hardwood stick fitted inside the tube. Of course, this kind of trier cannot be supplied with compartments. In use, as soon as the trier is forced to its full length into the grain this stick is withdrawn, permitting the tube to be filled through the slots. There is an objection to this type of trier, because if some of the grain is dirty or tough it does not run freely through the slots, whereas the dry and clean grain runs very freely. This will result in the taking of a sample that does not contain enough dirty or tough grain to make a representative sample of the whole lot.

Samples from carloads of grain should be taken by pushing the grain trier into at least five different and well-distributed spots chosen on the surface of the grain. In procuring the sample the first probe with the trier should be made near the end of the car, and approximately one foot from the side; the second probe should be made on the opposite side about half way between the end and the center of the door; the third probe should be made in the center between the two doors; the fourth probe should then be made along the same side of the car that the first probe was made, but in the opposite end and half way between the door post and the end of the car; and the fifth probe should be made in the same position as the first, but in the diagonally opposite corner of the car.

On account of the way some parcels of grain are loaded it is often necessary to make more than five probes to secure a representative sample. When and where these additional probes are to be made is a responsibility that must rest with the sampler. Because of the various ways that grain can be loaded no set rule can be prescribed.

The sampler should provide himself with a piece of fairly heavy cloth which is at least 27 inches wide and which is a little longer than is the grain trier used. This cloth should be spread upon the surface of the grain so that each trierful of grain can be emptied upon it. This enables the sampler to examine readily the different individual samples for the mixtures, qualities and conditions that are possible in bulk grain. When this examination is finished and the proper notations are made, the grain on the cloth is poured into a waterproof cloth sack of about 2½ quarts' capacity. The sack is then taken to the laboratory or other place where there is opportunity to examine the sample and determine the factors affecting the grade of the grain it represents, as provided in the official grain standards of the United States. This sample is too large for many of the analyses that must be made before the grade is established, so the Boerner divider, or sampler, is used to cut down the whole sample into the desired portions.

The portion on which the moisture test is made should be in the same condition as was the original sample of the car; that is, it should not be cleaned or allowed to dry out, except that in the case of wheat and rye the test weight per bushel, of course, should be made on the clean grain. A quantity slightly more than a quart is necessary for use in determining the percentage of dockage as well as to make the test weight per bushel determination.

With wheat and rye, after the test the clean grain may be run again through the sample divider until the desired amounts are obtained for ascertaining the different percentages of the factors required for establishing the final grade.

TEST WEIGHT EQUIPMENT

The test weight per bushel is of such importance in determining the milling quality of wheat and rye that proper testing equipment should be used by all grain inspectors and grain dealers. The test weight per bushel is also an important measure of quality in other grains not so commonly milled for flour, like oats, corn, and barley.

To reduce the personal error to a minimum and to standardize the method of making the weight-per-bushel determination when this test is made, the United States Department of Agriculture has perfected a device for determining the test weight per bushel, and has issued a set of instructions for using the apparatus, if the best results are to be attained.

Before a weight per bushel test is made on either wheat or rye, any dockage present must be removed. Dockage is the foreign material that can be readily and mechanically removed from wheat and rye by appropriate sieves or other practical cleaning devices. In the case of all other grains the weight-per-bushel test is made on the grain without previously removing any foreign material. The complete weight-per-bushel apparatus is designed so that the one-quart test kettle is filled from a hopper, the lowest point of which is supported exactly two inches above the top of the kettle. The overflow or surplus grain falling on top of the kettle is removed by a piece of wood called a stroker, pushed along the rim of the kettle in three full-length zigzag motions of the stroker. This stroker, made from hard wood and finished with rounded edges, must be 12 inches long, ⅜-inch thick, and 1⅜ inches broad.

All weight-per-bushel apparatus used by the Department of Agriculture for determining the weight per bushel of grain must meet standard specifications for construction with special attention to the accuracy of the kettle as to volume and the sensitiveness and calibrations of the beam as to weights.

The official testing kettle must be one quart in size and must have a capacity of 67.2 cubic inches. The inside depth of this quart kettle must be 4 inches with a variation not to exceed .05 of an inch. The inside diameter must be 4.62 inches with a variation not to exceed .025 of an inch. The beam must be of the double bar type mounted in a "U" loop to the standard. The upper bar is graduated from 0 to 13 pounds per bushel, each pound space being further graduated into tenths of a pound per bushel. The lower bar is graduated into 10-pound per bushel spaces and extended from 0 to 60 pounds in multiples of 10 pounds per bushel. At each 10, 20, 30, etc. graduation there is a notch in the beam into which a pawl on the counterpoise snugly fits which prevents the counterpoise from being unintentionally moved from the graduation on the beam where it is set. The beam is of standard length and fitted with standard bearings susceptible of being adjusted for accuracy and sensitiveness of within .05 (½ of 1/10) pound per bushel.

To maintain a high degree of accuracy and thereby to obtain uniformity in results, the department has devised equipment by which the accuracy of the beam and the volume of the kettle may be readily determined. By using a series of specially constructed weights the accuracy of the beam may be determined to within 1/10 of a pound per bushel.

To test the volume of the kettle, the kettle is filled with distilled water at a temperature of 20 degrees Centigrade. It is important that the kettle be exactly full; this is accomplished by removing the surplus water above the rim of the kettle with a specially constructed piece of plate glass. The water in the kettle is then weighed against a special weight constructed to weigh exactly the same as a quart of distilled water at 20 degrees centigrade. A tolerance of one gram (equivalent to 1 cubic centimeter or .09 of 1 per cent of a quart) is allowed before the apparatus is subject to repairing or discarding. Any dealers or inspectors may have their equipment tested for accuracy free of charge at any office of Federal Grain Supervision.

Special points to observe in making correct weight-per-bushel tests include the following:

Use an accurate quart-size weight-per-bushel testing apparatus.

Fill the kettle from a hopper.

See that the opening at the bottom of the hopper is round and exactly 1¼ inches in diameter.

Hold bottom of the hopper exactly two inches above the center of the kettle.

Use the same volume (approximately 1⅛ quarts for each test. This quantity of grain will provide sufficient overflow.

Use a stroker as described.

Have the kettle rest on a firm base.

Do not jar the kettle before or during the stroking operation.

Make the test as soon as possible after drawing the sample.

Make the test after the dockage has been removed, when testing wheat and other grains for which the standards provide a requirement for dockage.

Use only a tester that is accurate in both kettle volume and beam graduation. Each of these factors should be tested periodically.

REMOVING DOCKAGE

As a fixed standard speed (from 140 to 145 revolutions per minute) is necessary if accurate and uniform dockage percentages are to be obtained, the hand-driven kicker is not recommended unless electric current is unobtainable. The spring on the riddle carriage of the kicker should have a tension of 30 pounds and the throw of the shoe should be $\frac{7}{16}$ of an inch in length. The proper adjustment of the hopper is an opening wide enough to let one quart of wheat pass over the roller and on to the riddle in about 50 seconds. Hard Red Spring wheat is run through the kicker twice; all other wheats are run only once unless the wheat in question contains a considerable quantity of oats, wild oats, barley, or other similar material.

The machine used by all grain inspectors and supervisors to remove the coarse separable foreign material, known as dockage, is commonly known as the "wild oat kicker." This machine is supplied with a specially contrived slanting riddle that moves forward and backward with a short jerky motion which throws the coarse material into an open receptacle on the end of the kicker and at the same time permits the wheat or rye to pass through the riddle upon a sieve which removes the fine seeds. This fine seed separation must be re-screened through hand sieves in order to reclaim shriveled and broken wheat kernels that passed through the riddle with the fine seeds. These sieves will be described later.

The wild oat kicker requires more attention than an ordinary piece of machinery, because, through the nature of its construction, the machine has a tendency to pound itself to pieces or to loosen bolts, springs, and other fittings. This will impair its work unless the condition is remedied. The tension of the coil spring gives force to the throw. This tension may be measured by the resistance registered on a spring scale which may be procured at any hardware store. If the coil has the proper tension the scale should register approximately 30 pounds.

For different kinds of wheat, different sized slots in the riddles must be used. If the kernels are large, the slots in the riddle must be correspondingly large or the wheat will be thrown over with the coarse foreign material. It is, therefore, important that the slots in each riddle be of a certain specified dimension, uniform in shape, and be of firm connection at joints. The Department of Agriculture has devised a set of gauges for measuring the size of the slots.

MOISTURE TESTING

The electrically heated moisture tester costs about $5 more per unit than one with gas burners or one heated by an alcohol lamp, but here again the electrically heated tester is the most dependable unless illuminating gas is procurable, which is probably not the case with most country elevators. So it becomes a choice between electricity and the alcohol lamp. On account of the importance of standardized heating time for the tester, the electric heater is preferable for the country elevator. The heating time can be regulated by the use of a rheostat and adjustable heaters, which will deliver a constant heat intensity to the flask of the tester.

The Brown-Duvel tester, developed in the Department of Agriculture some years ago, provides a quick and accurate means for ascertaining the exact percentage of moisture in any parcel of commercial grain. It seems unnecessary to go into minute details regarding the construction of this piece.

But little has been said or written with respect to its proper installation and operation if the best results are to be secured. There are many replacements each year in what may be called breakable and consumable parts such as thermometers, flasks, distilling tubes, graduates, and rubber stoppers. When any of these articles are purchased, the operator should satisfy himself that all are of the required size, the thermometers and graduates accurately calibrated, and the rubber stoppers of material that will withstand high temperatures without becoming soft and spongy.

To determine the correct percentage of moisture in a sample of grain, the experts of the Department have found that the moisture tester must be operated in a prescribed manner. As usually operated, the test is based upon the theory that corn containing 18 per cent of moisture, with heat applied for 20 minutes, should attain a temperature of 190 degrees Centigrade, provided the moisture tester and its contents are at room temperature at the beginning. If the room and apparatus are warmer or colder than 20 degrees Centigrade, the time required to raise the temperature of the contents in the flasks varies correspondingly and the difference in time that will elapse because of the difference in the room temperature, does not necessarily mean an incorrect test. If the corn contains more than 18 per cent moisture and the tester is in correct operating condition, it requires slightly more than 20 minutes to reach the 190 degrees Centigrade. Similarly, if the corn contains less than 18 per cent moisture it requires less than 20 minutes. After the heat has been turned off the graduates are not read until the temperature of the flask has dropped to 160 degrees. This drop in temperature requires from 17 to 19 minutes. If this drop in temperature takes less time the results are low and inaccurate.

Since it is not always possible to secure corn with exactly 18 per cent of moisture, in order to decide whether a moisture tester is in correct working order, technicians have devised a simple substitute for such corn to be used for determining whether the results from a tester are dependable. It has been learned through experimentation that a moisture tester properly adjusted will heat 450 cubic centimeters of the oil used for moisture testing from 20 degrees Centigrade (ordinary room temperature) to 175 degrees in exactly 20 minutes if the thermometer bulb is fully immersed in the oil. If the compartments of the tester show differences in time of heating, steps should be taken to correct the trouble.

Experts in the department who have made a study of moisture testers are of the opinion that testers heated by electric current can be so installed, equipped, and adjusted that the proper regulation of the heating time can be more easily controlled than in any other type of heater.

To obtain this control all wiring for electrically heated moisture testers should be done by a competent electrician. The electrician should be made to understand that the voltage of the current at the machine must be maintained constant regardless of the number of compartments that are being used at any one time. The lead-in wire must be large enough to carry the maximum amount of current required. If the tester is operated on current carried by wire of insufficient size, the supply will be insufficient and the correspondingly increased heating time that will be required will give a result too low. Similarly, if too much current is available the moisture result will be too high. No electrically operated moisture machine should be operated without a voltmeter to assure that the proper

amount of current is at hand for obtaining correct results.

Some essential points in testing grain for moisture may be summed up as follows:

Use exactly 50 grams of oats, or 100 grams of any other grain, when a moisture test is made. A few kernels too few or too many will cause an appreciable difference in the result. This is especially true in grain with a high moisture content.

When the thermometer reaches the prescribed temperature for the grain being tested shut off the heat immediately. Longer application of heat will cause nothing but error in the results.

Do not read the percentage of moisture in the graduated cylinder until the temperature indicated by the thermometer has dropped to 160 degrees Centigrade.

Keep a good circulation of cold water running through the condensing tank while the tester is in use.

Clean and dry each graduate before using for a test.

(Note: For further information and instruction in the proper method for making a moisture test, see the Handbook of Official Grain Standards or Bulletin No. 1375 issued by the United States Department of Agriculture.)

To make an accurate moisture determination, a balance should be used that weighs 100 grams within 1/10 of a gram error. A dockage determination is usually made on at least 1,000 grams. It has been found satisfactory to use a balance capable of weighing 1,000 grams within 1/10 of a gram error, which is the same kind of balance that is commonly used for making a moisture test.

A smaller balance is needed for analyzing damage in wheat and other small grains. Because of the reduced portions to be analyzed, it is necessary to have a sensitive balance that will not weigh over 50 grams, and its variation should be within 1/100 of a gram accuracy. All balances should be placed on a firm stand or table if the best results are to be obtained. A loose or unstable support is useless for on it the balance will not stay in order.

Use of the equipment and methods here described is of the utmost importance in making a determination of grades that will be in uniformity with the inspector's findings on the same lot when it reaches the terminal market.

The old practices of dipping a weight-per-bushel bucket into the grain and scraping off the top before weighing for weight per bushel, or of depending upon the feel of the grain for excessive moisture, or of screening dockage with hand sieves, or of scooping up samples in a bucket from the top of the load, have no place in the present-day efficient methods used in grading grain. If a country elevator manager is to know the grade of his grain he must adopt the approved and standard methods used in all grain inspection laboratories.

More complete and detailed information regarding the proper determination of the grading factors of the standards, including the so-called interpretative factors, will be gladly furnished to anyone interested upon application to grain supervision officials addressed direct or in care of the AMERICAN ELEVATOR AND GRAIN TRADE.

New Burlington Unit Heir to Excellent River Facilities

2,400,000-Bushel Plant at St. Louis Finds Location on Mississippi Decidedly to Its Advantage

THE Mississippi River, extending as it does from Minnesota to the Gulf of Mexico past New Orleans and with the prospect of further increasing its navigability at the completion of the Government deep waterway project, offers an almost ideal location for a large terminal grain elevator like the new Burlington unit at St. Louis. This new 1,000,000-bushel addition to the older Burlington Elevator A is the last word in elevator construction, according to the James Stewart Corporation, designers and builders.

Officials of the Marshall Hall Grain Corporation, now operating both the new and old sections, plan to make the plant one of the fastest handling houses in the United States with the aid of three shipping tracks and a car dumper of the latest design. The principal equipment of the new elevator comprises: A direct heat drier of large capacity, modern clipping and cleaning machinery installed on a special floor, a thermometer system which records the temperature of the grain in the tanks, and a special switch engine which was purchased by the company to expedite the handling of cars and especially to serve the car-dumper which requires rapid handling of loaded cars in order to secure maximum results. There is also extensive sulphurizing equipment.

Temperature control in 27 bins is effected by the Zeleny Thermometer System.

While the elevator has only a 1,000,000-bushel capacity, the plant's machinery can handle three times that amount, making it probable that a future addition will be built. The new elevator is connected overhead and underground with the old Burlington Elevator A, a crib wooden structure with a capacity of 1,400,000 bushels.

In the construction of the house it was the aim to build for the future and for rapid and economic handling of grain. It has been so arranged that each house can be handled separately or so coordinated as to be handled as one unit. Unloading is done through a car-unloader, which is now considered imperative in the handling of heavy receipts. Delivery to the river barges is made through Elevator A and a large river house which is equipped for loading and unloading from the river, traffic on which is bound to increase considerably within the next few years.

THE BURLINGTON PLANT AS IT LOOKS TODAY
The New Elevator May Be Seen at the Right, the Old at the Left. The Two Houses Have a Combined Total of 2,400,000 Bushels

The foundation for the Marshall Hall Grain Corporation was laid in 1889 by its predecessor, the W. L. Green Commission Company, which was organized by men who had faith in the development of St. Louis as one of the leading grain markets of the country. The Marshall Hall Grain Corporation has steadily progressed and grown, there never having been a break in the continuity of the firm since the original organization. The company attributes this success to the mutual co-operation extended by its many customers and friends throughout this country and Europe.

The firm specializes in all branches of the grain business, domestic and export, and separate departments are maintained and managed by experienced department heads and assistants, thereby assuring customers the utmost service in the handling of their business entrusted to this St. Louis concern.

Much credit for the company's success must go to W. T. Brooking, president of the concern, who has spent much time and trouble in giving the business a good start. Mr. Brooking, whose photograph is shown here, has been a director of the St. Louis Merchants Exchange for two terms and has also been chairman of committees on traffic and improper practices. He has always been known as a loyal supporter of the exchange.

W. T. BROOKING

The new 1,000,000-bushel unit now places the Burlington St. Louis elevator, with its total capacity resting at 2,400,000 bushels, as the largest in the surrounding area. Next in size is the plant of the Missouri Pacific, operated by the Continental Export Company, with a capacity of 2,000,000 bushels. The total capacity of all St. Louis elevators, public and private, exceeds 12,000,000 bushels.

EUROPEANS INDIFFERENT ON PROTEIN PROJECTS

Dr. Robert Newton, of the University of Alberta, commissioned by Canada to sound out European trade leaders on the idea of indexing the protein strength of Dominion wheat shipped to them, has returned from abroad with an unqualified "no" for an answer.

In Great Britain, France, Norway, and Italy, Dr. Newton consulted grain traders, millers, bakers, and importers, but failed to find any enthusiasm for the insertion of the protein factor into grain grading. "I found a profound respect for the existing system of grading Canadian wheat," Dr. Newton declares, "and in some quarters surprise was expressed that any change should be contemplated."

THE AMERICAN ELEVATOR AND GRAIN TRADE

Published on the Fifteenth of Each Month
BY
Mitchell Brothers Publishing Co.

OFFICE:
Manhattan Building, 431 South Dearborn St.
CHICAGO, ILL.

A. J. MITCHELL.....Business Manager

New York Representative: E. M. Roberts, 587 Riverside Drive
Telephone Edgecomb 7172

Subscription Price - - - - $1.00 per Year
English and Foreign Subscription 1.75 " "

ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching persons connected with this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

Official Paper of the
Illinois Grain Dealers Association

CHICAGO, ILL., FEBRUARY 15, 1930

WEED-SEED WASTE

AFTER a survey of the economic havoc caused by the weeds that line the dusty roadways and straggle through fertile fields, the Co-operating Committee on Weed Control Campaigns, meeting at the Chamber of Commerce of the United States, estimates the annual national loss from this source at $3,000,000,000.

The case is cited of one Spring wheat area in which the dockage was 33,000,000 bushels—due to weed seeds which were harvested with the grain and hauled to market only to be cast out eventually as waste.

The Co-operating Committee, consisting of representatives of the National Grange, the Farm Seed Association, the United States Department of Agriculture, and the National Chamber of Commerce, will formulate a plan for a concerted movement for weed control to check the formidable economic waste from this source. Grain trade associations should give full support to this campaign.

WHAT WILL BE THE COST?

Q.—HOW much was the original amount of the Federal Farm Board's revolving fund, Mr. Legge?

A.—It was $150,000,000. That is the amount authorized. The Agricultural Marketing Act provides for a total of $500,000,000.

Q.—Can you give this committee (congressional appropriations) any information as to when you will make a request for further authorization?

A.—I think before the present Congress adjourns we probably will want to come back for further funds, but the longer time you can give us on that the better case we can make as to what is going to be required. My offhand guess would be that we would ask you to set aside another $100,000,000 or $150,000,000 for the following year's operation. I do not think that we will call for the full $500,000,000 . . . immediately.

The foregoing friendly interchange between a Congressman and Chairman Legge took place early this month about the same time that the farm board announced its plans for a wheat-price stabilization corporation. Mr. Legge's "offhand" estimate that a total of $300,000,000 would be asked for before the farm board is a year old is a conservative guess. Wheat is only one grain, and grain is only one commodity that will require market stabilization if the mandate of the Agricultural Marketing Act is followed.

For the first time, except in war-time emergency, the Government is stepping into the market to control grain prices. With the vast funds now authorized, it will be easy to buy grain and affect the market price. Unloading that grain, however, will be a job, truly, calling for supermen.

The personnel of the wheat council selected by the grain co-operatives and the farm board to engineer the stabilization process offers nothing especially to criticize. Messrs. Lang, Wilmer, Manley, Settle, Schnitzler and Hodgson form a fairly well-balanced group. Their responsibility is not envied by the practical grain men who know of the dynamite about to be juggled.

WHEAT VERSUS RYE

THE grain trade situation in Germany, as described by statistical reports from the Department of Agriculture, has many points of interest—especially for those dealing in seaboard grain that has a potential market in Germany.

With a large rye crop and higher duties on wheat, but with smaller wheat and potato crops, will Germany import more or less wheat than last year? The German farm stock of wheat at the beginning of the season was probably less but rye stock somewhat larger than at the beginning of the previous season. The new wheat crop was estimated to be 19,000,000 bushels less than the previous crop. The farm stock this winter is about 15,000,000 bushels less, and the amount held on farms for sale 12,000,000 less than on corresponding dates of the previous year. In the period July to August, Germany exported 6,600,000 bushels in 1928, and 5,000,000 in 1929. During the same periods, total imports amounted to 40,000,000, and 34,000,000, making the net imports of the period about 5,000,000 less than in the corresponding period of the past season.

Ignoring market stocks of foreign wheat for which there is no data, it seems that the disappearance of wheat in Germany in the first five months of the season was slightly less than in the corresponding period of the previous season. Beginning the second half of the season with about 15,000,000 bushels less than the beginning of the corresponding period of the past season, it seems likely that Germany will import more wheat than in the corresponding period of a year ago, but it is possible that the increase in imports will not equal the reduction in the supplies on hand. Cheaper feed grain is an important factor in the situation. The prices of potatoes, rye, and all feed grains are lower whereas the price of wheat is higher than a year ago.

The very marked decline in rye consumption since the World War in typical rye-producing and rye-consuming countries, has recently been pointed out by the International Institute of Agriculture. But this decline, in some cases, has not been accompanied by an increase in wheat consumption. Increases have occurred in Scandinavian countries, but not, so far, in Germany, Finland, or Holland.

REVIVE THE COUNCIL

DURING the 10 years of its existence, ending in 1919, the Council of Grain Exchanges exercised a wholesome and effective influence on the grain trade. Then, as now, the trade was under continual fire from agrarian politicians. Through the suggestions of the council, trade practices were improved in all markets and a greater degree of uniformity was arrived at than had prevailed before. The council, made up of representatives of all the leading markets, acted in an advisory capacity only but the representatives were, for the most part, the strongest figures in the various exchanges and it had a potent influence.

At no time during the life of the council was there as great need of such a body as there seems to be today, when the very life of the trade is at stake. The Agricultural Marketing Act, a political and not an economic measure, has among its chief functions the education of the country at large to the co-operative idea, which can easily be expanded, under the act, to state socialism. Any part or all of the half billion dollars appropriated can be expended for propaganda. The radio and printing presses are already at work, and there is no one who can foresee the end.

If this propaganda goes out unchallenged, it can only be a matter of time when the regular grain trade is in total disrepute. When this end has been obtained, history of Federal bureaucracy shows that the matter will not be dropped, but on the contrary will be extended, by ever-increasing hordes of Federal employes, to include manufacturing and distributing agencies of every character.

This is one of the messages which should be impressed on the people, for socialism will only be stopped when the people are made aware of its approach and take matters into their own hands.

No one of the grain exchanges or associations is strong enough or wealthy enough to put forth such an educational program. Should a new council of grain exchanges be formed, it is possible that a way may be found.

Another argument for absolutely fireproof construction in grain elevators: When a 20,000-bushel elevator at Mansfield, Ill., caught on fire recently, firemen there refused to answer the alarm because of the cold weather.

EDITORIAL MENTION

Rye seems now relatively cheap—either as a breadstuff, nearly 40 cents under wheat—or as a feed—about seven cents under corn.

Current livestock census figures indicate that there are about as many animals on feed this season as a year ago. The feed sales of the average elevator should be fully up to normal.

Critics say the independent grain trade has its back to the wall, but a privately run grain firm in Chicago leaned against the wall long enough the other day to declare a 60 per cent stock dividend.

The Brazilian senate has pending a bill to enforce fumigation of cereals in storage. The costliness of neglecting fumigation is well recognized in America, and a law to emphasize the point is hardly necessary.

Can it be that the Federal Grain Futures Administration has served unconsciously as an advertising agency for futures trading in general? Plans are being completed for the organization of a hog futures market.

End products of the grain stored in the elevators of Corn Products Refining Company, it is charged by Federal prohibition administrators, sometimes include illicit alcoholic drinks. If the conspiracy case against this firm should be won by the Government, the refiners will be forced to organize snooping staffs to spy upon their customers.

Manager Kellogg, of the Farmers National Grain Corporation, announces that member cooperatives may continue to borrow against purchases of No. 1 Northern at $1.25 per bushel up to July 1, 1930. Much of the grain which newspapers have mentioned as being bought in various markets by the corporation, has in reality been purchased by small member companies.

Certain wheat areas in the Southeast are being damaged by spread of the nematode disease. This grain malady may be recognized by the presence of hard galls in the grain. These weed-like galls contain the nematode worms that do all the damage. As in the case of so many other wheat diseases, the only sure control method is sowing uninfested seed on uninfested land.

Glancing over old files of this publication, we noted the suggestion of one reader to the effect that in shipping grain from California to England, enough moisture would be absorbed from the trade winds to effect a gain in weight sufficient to pay all freight charges. Years have passed and no one has capitalized this brilliant notion. We pass it on to the farm board for what it is worth.

The "Valentine" issued by Kansas crop accountants this year is not quite up to the report of last year. A total of $548,421,056 is the value placed on field crops harvested in Kansas in 1929, plus the value of livestock and livestock products produced and disposed of largely during the year. This compares with $605,133,029 on a similar valuation base and inventory for the year 1928. In acre returns, as well as in total tonnage, the production of almost every grain and forage crop is smaller than for 1928. On the average, however, the price per acre unit of production is slightly higher than for 1928. No records were established for either acre returns, total production, or valuation of field crops. Of the seven major grain crops, grown in Kansas, wheat, corn, oats, barley, rye, flax and grain sorghum, the total production in 1929 was 304,850,000 bushels compared with 441,452,000 bushels in 1928. This decrease in grain crops of 136,602,000 bushels is the cause for a lower inventory value of production.

CROSS-SECTION NOTES ON THIS ISSUE

Technical details of grain-grading apparatus for the modern country elevator manager who wants to conduct his buying and selling scientifically. Pages 483-4-5.

A war story about grain and the largest wheat-fumigation project ever undertaken: Pages 482-3.

"Revive the Council": A constructive suggestion for the grain trade is in that editorial on Page 486.

The problem of protein as it affects the country dealer: Pages 480-1.

Association news: Beginning on Page 502.

News of the terminal grain marts reviewed in two departments, beginning on Pages 488 and 494, respectively.

New riverside storage in the city Lindbergh made famous: Page 485.

Part of the forest of grain tanks in the flour city belongs to the company whose plant is described on Pages 477-8.

When will official grain crop reports be released this year? The complete answer is on Page 478.

Fighting elevator fires: Pages 479-80.

Brief and to-the-point information on hay, straw and feed: Beginning on Page 500.

Seed news: Beginning on Page 506.

Operators of grain elevators in Buffalo, N. Y., have entered a vigorous denial to charges brought before Congress by Senator Borah, alleging that the Federal Government is being defrauded of $200,000 annually in uncollected wheat duties at the western New York port. Four Federal inspectors are continually on duty at Buffalo elevators to prevent evasion of duties on wheat brought from Canada. Those are the men who would have the facts to warrant such an accusation, and their eloquent silence is a final answer.

The general level of farm prices declined one point to 134 from December 15, 1929, to January 15, 1930, as reflected by an index of changes in the farm prices of principal agricultural commodities with the pre-war level representing 100, according to the latest farm-price index of the Bureau of Agricultural Economics, United States Department of Agriculture. At 134, the index is one point higher than in January a year ago. Advances in the prices of meat animals, hay, potatoes, apples, and chickens during the period from December 15 to January 15 failed to offset the continued decline in the farm prices of cotton, cottonseed and wool, slight declines in small grain prices, and seasonal declines in prices of dairy and poultry products. The farm price of corn showed a 1 per cent decline from December 15 to January 15, no doubt due to the run of soft corn.

The 1929 wheat production in 43 countries which in 1928 produced about 97 per cent of the world total, exclusive of Russia and China, stands at 3,289,154,000 bushels, a decrease of 14 per cent from the 1928 volume, according to the February report of the United States Department of Agriculture. The second official estimate of the 1929-30 wheat production in Argentina is 139,882,000 bushels, over 3,000,000 bushels less than the first estimate, and 54.5 per cent below the 1928-29 production. This is almost a record shrinkage in wheat volume for a single nation in one year's time.

In fundamental respects, the Brazilian government's effort to stabilize coffee prices is similar to our national plan of grain-farm relief. For five years Brazil has sought to steady the coffee market by warehousing beans and thus influencing the flow of coffee toward the cups of importing nations. And for five years it has had a fair measure of success. The plan fell through of its own weight, however, and prices have been cut about in half. As most government agrarian relief programs do, the coffee theory worked out all right for a while as a preface to the final crash.

A hull house belonging to an Iowa elevator company burned a short time ago, and the insurance adjuster reported a curious feature. The structure itself was completely destroyed, but only about 25 per cent of the oat hulls were consumed by the fire. The high fibre content of these hulls cause them to heat spontaneously and on short order, but when they are packed densely the greatest damage is likely to be that of nearby combustible material. Oat hulls should never be sacked or binned within the main building. Even when they are in a dust house or other separate structure they must be watched carefully.

What about the keeping qualities of shelled corn in two-bushel sacks? A Kansas dealer, short of bulk storage space, asks this question. If this season's corn must be warehoused instead of binned, it will naturally require more attention than if it could be turned frequently. Burlap will be better than the ordinary heavy grain bags which prevent aeration of the grain. In such containers, corn of 15 or 15½ per cent moisture may be stacked in narrow piles with reasonable assurance that it will not heat. But all such stored material, no matter how carefully put up, must be examined frequently. The cost of bags, the care required in handling and re-handling, and other factors combine in this case again to suggest the economy of generous bulk-storage capacity at shipping points.

GEORGE BOOTH
Chicago

NEWS OF THE TERMINAL MARKETS

KENT KEILHOLTZ
Toledo

EASTERN TRADE WAITING

The movement of corn to this market continues moderate. While the demand cannot be considered up to normal for this season, it is at least in proportion to the movement and as a consequence stocks are accumulating very slowly. The uncertainty existing in the minds of most people connected with the grain and feed business in regard to what the outcome of the present wheat situation will be is reflected in a hand to mouth buying policy for all grains. This means that stocks in consumers hands throughout the East are low and any factor which might result in instilling more confidence into buyers could very easily bring in a sharp demand, which would no doubt be reflected in the price unless there was an increased movement at the same time to meet it.

There has been some revival in the oats demand and as very few oats are coming from the country, local stocks are being reduced weekly.

The demand for milling wheat is at a standstill due undoubtedly to the conditions above mentioned. —*J. G. McKillen, Inc., Buffalo, N. Y., letter of February 11.*

ANOTHER EARLY HEADS CINCINNATI EXCHANGE

The new president of the Cincinnati Board of Trade stepped easily into the office because in his own right he had earned the esteem and confidence of his fellow members on the Exchange, and because his father before him had filled the position to the immense satisfaction of the trade. But after

Photo by Bachrach
ROBERT LEE EARLY

all, such honors are not inherited; they have to be earned.

Robert Lee Early was born in Cincinnati on August 16, 1894, and has spent his entire life there. He was brought up in the Early & Daniel Company and grain, hay and feed terms were as familiar to him as a boy as were the positions on a baseball field. Even before going to college he had absorbed a pretty thorough knowledge of the grain and feed business, and upon his graduation from the Ohio State University in 1916, with W. A. Daniel, son of the other half of the Early & Daniel Company, formed the Mutual Commission Company, which thrived and prospered.

After several years the older firm beckoned and Mr. Early left the Mutual Commission Company to go with the Early & Daniel Company and he now holds the position of secretary-treasurer in that company, which ranks high among the grain and feed firms of the city, and indeed of the country.

CHICAGO QUOTATIONS BROADCAST TO WORLD

The development of speed in spreading Chicago grain quotations to the principal cities of Europe is the subject of a letter to Fred H. Clutton, secretary of the Chicago Board of Trade, from Harry G. Atkin, assistant commercial editor of Reuters, who has just completed an inspection of the Chicago exchange.

"The Chicago Board of Trade is known throughout the world and its markets are among the most important; its grain markets, in particular, its wheat market, dominate the world," Atkin points out.

"And the tremendous speeding up of cable transmission across the Atlantic in conjunction with the development of wireless," he added, "has brought the old and new worlds into such close relation commercially as to rouse the greatest interest in Europe and elsewhere in American market conditions. This makes it imperative that the important prices on the various commodity and other markets of this country be carried to eager recipients throughout the world with the maximum of accuracy and the minimum of delay.

"Reuters have turned the carrying of quotations by cable and wireless into a science. Commencing with the opening of the markets in Chicago and at intervals throughout the day up to and including the close, grain quotations are transmitted at urgent rates across the Atlantic to Reuters head office in London whence they are relayed to the great wireless station at Rugby and sent into the air for reception by the grain dealing countries of Europe. Quotations are also sent by cable to the Far East.

"Opening grain quotations at Chicago are of such special interest that eight minutes after the opening the prices are known in every European country having an interest in grain."

KANSAS CITY EXCHANGE TAKES ACTION AGAINST FARM BOARD

A petition, adopted by the directors of the Kansas City Board of Trade, was sent to the agricultural committee of the Chamber of Commerce of the United States at that body's last meeting, urging a vigorous opposal to Federal Farm Board activities, which were termed discriminatory and uneconomic.

The resolution of the board of trade follows in part:

"This legislation (the Agricultural Marketing Act) is novel in character, far-reaching in dangerous possibilities, unfair in its effects upon existing business, and of a socialistic character foreign to the principles of our Government. Plainly, it should be widely and temperately administered, and its innovation should be dealt with cautiously.

"The Federal Farm Board, charged by the law with its administration, has embarked upon policies which must be viewed with uneasiness by business men everywhere.

"It is using Government aid and public funds to interfere with prices and legitimate business, to foster unfair competition, to build uneconomic facilities, and to endanger honest business enterprise and investment. Business men everywhere should take notice of these things. Business should set its face against such extreme measures.

"Therefore, be it resolved that the agricultural committee of the Chamber of Commerce of the United States be . . . petitioned to take notice of the things herein recited and to recommend to the board of directors of the said Chamber of Commerce, that effective measures be taken to protest vigorously against the encroachments upon business by the Federal Farm Board and to take a strong position against further Government interference with established business."

K. C. BOARD OFFICIAL DEVELOPS VALUABLE TALENTS

Frank A. Theis, of the Simonds-Shields-Lonsdale Grain Company, recently elected first vice-president of the Kansas City Board of Trade, comes rightly

FRANK A. THEIS

by his abilities, and will follow family tradition when, as is likely, next year he becomes president. Mr. Theis' father was a member of the Kansas City Board of Trade 25 years, and was president of the Board in 1928 when he died. It was his unfinished term that brought J. J. Kraettli, retiring president this year, to office.

Mr. Theis was born and raised in Kansas City, the gateway to the southwestern wheat lands. Having gone through the public schools there he went to Kansas University, where, strangely enough, he secured an LL.B. degree. But that fact is not so strange as it might seem. The son of a grain man, he spent his summers and holidays working around the Board of Trade. He knew the business, he knew that he would inherit it and he also knew that he could best learn that business by actual contact. The law course was to give him something more, something that would be hard to get after he had set out in the grain industry. So he took the law course in order to secure a legal background for business.

Graduating in 1912, Mr. Theis entered the grain business in 1913 with the Armour Grain Company, the company with which his father was then connected. That was in the Kansas City office. After a short period in Kansas City he operated the Hutchinson branch office of the Armour firm for about a year.

In the spring of 1914, Mr. Theis went to Hastings, Neb., again for the Armour company, where he

opened up its first branch there. He operated it for four years. In 1918 he came with the Simonds-Shields-Lonsdale Grain Company, and in November of that year began his first official connection with the Board of Trade. He was elected to membership at that time.

Mr. Theis has served in various capacities with the Simonds-Shields-Lonsdale firm. His experience with the coarse grain department has been considerable, and at the present time he is manager of the export department.

On the Board of Trade his experience has been wide and varied enough to give him a substantial background for his duties as first vice-president. He has served on numerous important committees among which have been the Committee on Rules, the Committee on the Interpretation of Rules, and the Committee on Arbitration. He has been a director of the Board of Trade for about 15 years. In January of 1929 he was elected second vice-president. He now automatically is serving as first vice-president.

A director of the Grain Dealers National Association since 1928, Mr. Theis has served as chairman of one of that body's arbitration committees for three years. In all his more or less public activities in connection with the Board of Trade or the grain dealers' association, Mr. Theis has developed an authoritative mind on rates. He is a rate authority and is regarded as such. His training in law gives him considerable authority where any group or private movement is concerned.

In private life Mr. Theis is noted for his ability to play the piano. He has almost as considerable a reputation as a pianist as a rate authority. He is very well liked on the floor and by his associates. When he comes to the presidency of the Board of Trade next year, he will have the support and admiration of his business associates, and he will come to his task with a traditional as well as individual background of knowledge and experience.

DR. MAGILL DIES

On January 15 Dr. Robert Magill, M. A., Ph.D., secretary of the Winnipeg Grain Exchange since

THE LATE DR. ROBERT MAGILL

1916, died at the Battle Creek Sanitarium after an illness of several months.

Born in Ireland 57 years ago and educated there and in Germany, he came to Canada in 1903 as professor of philosophy in the Presbyterian College at Halifax, N. S., later going to Dalhousie University. He was chairman of a royal commission to settle mining disputes and his outstanding work in that connection led to his selection as chairman of another royal commission to inquire into the controversies growing out of the formation of the United Grain Growers of Saskatchewan. He became an authority on grain matters and at the outbreak of the war was made chairman of the Board of Grain Supervisors through which the Canadian Government assumed control of the grain trade.

Scholarly, with a rare sense of humor and a great understanding of men, Dr. Magill was one of the outstanding figures in the trade, and his loss is felt to be a severe one by the Winnipeg exchange.

ILLINOIS CONDITIONS IMPROVING

Moderate weather prevails here, you can readily believe how acceptable these warmer sunshiny days are. The thermometer goes under the freezing mark at night and over same daytimes. The coating of snow and ice which has covered fields for so many weeks has disappeared except in sheltered places.

Most folks say that our Winter wheat has again emerged from under its ice and snow covering in good shape, but one can not help notice the clods as large as your head, lying around in the fields, showing what a task it was to get the winter wheat seeded at all last fall.

Unimproved wagon roads are most too soft for hauling, but many farmers are busily engaged gathering corn. Where the stalks stood up, this corn that has been in the fields all winter seems to be in as good shape as that cribbed last November, but wherever the ears touched the ground much damage ensued.

Illinois corn farmers have done what might be called a good job of orderly marketing this winter, as the movement to market has generally been just about enough to meet current demands.

We note some slight improvement in corn grades in Decatur recently and expect that during March this excess moisture will begin to evaporate.

The opinion is gaining ground that Uncle Sam has more wheat on hand than he will ever have any use for, and that he may again assume the role of the world's humanitarian and feed those dying Chinese gratis with his surplus.

A moderate seasonal demand for oats is appearing, causing some decrease in stocks on hand.—*H. I. Baldwin & Co., Decatur, Ill., letter of February 8.*

CORN ARRIVALS FAIR, BUT MOIST

The corn receipts have been fairly good in the past week. Most of the corn arriving is country shipments, with moisture test averaging around 23 per cent. This Ohio corn is testing 46-49½ pounds, and an occasional car running 50-51 pounds.

We notice the new shipments, the past few days are much lighter, and it is reasonable to expect much lighter receipts here, for the coming week. The values, on this class of corn, are usually based on the No. 4 Yellow, with a one cent discount for each ½ per cent moisture excess, providing the corn is equal to No. 4, in other respects. Some of this lighter weight corn is being discounted on account of test weight, quality, and moisture. Our market is well in line with country bids being made in various markets, at this time. All shipments of this class of corn should be billed to Pittsburgh, on consignments, for Pennsylvania Railroad delivery, only.

Oats receipts are fair. Our market, if anything, is inclined to be a little slow, and it is difficult to realize top prices for oats, of any grade. Demand for oats has been rather unsatisfactory. Oats testing 32 pounds or better, of large grain variety can be priced at a slight premium over regular No. 2 Whites.

Practically no ear corn is arriving here, and the trade is not making any inquiries for this commodity. We would not suggest, or recommend consignments of this ear corn to our market, owing to the apparent absolute lack of demand.

Shipments are arriving quickly, and there have been but very few cars of corn out of condition in our market on this crop, in spite of the high moisture contents.—*Harper Grain Company, Pittsburgh, Pa., letter of February 11.*

HENRY P. SMITH ELECTED HEAD OF BOSTON EXCHANGE

Henry P. Smith, for the past six years associated with the firm of Stafford & Smith, dealers in flour and hay, was elected president of the Boston Grain and Flour Exchange early this month. The vote was unanimous.

Mr. Smith began his business career with the Cobb, Bates & Yerxa Company, grocers, and later

HENRY P. SMITH

was employed by the Hecker, Jones, Jewell Milling Company as a flour and cereal salesman where he remained for eight years. His next connection was with Henry Russell, Albany, N. Y., flour and feed brokers, and later he took the account of the Everett, Aughenbaugh Company, Waseca, Minn.

In addition to his new position as head of the Boston exchange, Mr. Smith holds several other important offices. He is director of the investment board of the Wellesley Co-operative Bank, a trustee of the Babson Institute, vice-president of the Cole & Smith Insurance Company, chairman of the board of trustees on real estate of the Boston exchange, and a partner in the firm of Stafford & Smith.

He is also actively interested in Masonic work, having been District Deputy Grand Master for the Fifth Masonic District and at the present time is an active member of the Board of Masonic Relief. He holds offices in Scottish rite bodies as well.

FAIR DEMAND AT PEORIA

There has been nothing very unusual in our market recently. We have been having good, even large, arrivals of corn for the past 30 days and it has all been well taken care of by local industries and shippers. On some of the days when receipts were unusually large someone spread the country with information that Peoria was congested. This was not true—as there has not been a single day of real congestion in our market for a long time. The local industries are grinding 80,000 to 85,000 bushels daily and there are only small stocks in elevators. Prices here have been as good and many times a little better than other competing markets. At any rate—while there has not been anything that could be called a large movement of corn it has been coming here from a wide territory and an occasional car from a good many stations has given us very liberal receipts.

Our idea is that this will soon change. The farmer will soon be busy with his farm work and besides there is a general belief in the minds of the farmers and also dealers that corn is likely to advance further after a while. Whether this idea is correct or not we cannot tell but we feel very friendly to it at present prices.

Oats have been coming in somewhat larger quantities though the arrivals are certainly very light. There has been a somewhat better demand and some of the stored oats have gone for shipment.

With the 1929 corn crop over 200,000,000 short

and the oats crop more than 200,000,000 short in this country and with an unusual shortage in the Canadian provinces we feel that values on both corn and oats should work into a higher range.

No wheat of consequence coming here.—*P. B. & C. C. Miles, Peoria, Ill., letter of February 11.*

MOVEMENT SLOW AT CINCINNATI

The movement of corn has been a great disappointment in our section up to the present time. The farmer does not seem to be satisfied with the price and is holding out better than usual this year.

There is a good demand for Red Winter wheat, but that is moving in very light volume, the same as corn. There is considerable wheat back in the country, but the price isn't satisfactory.—*The Early & Daniel Company, Cincinnati, Ohio, letter of February 11.*

REUBEN G. CHANDLER DIES

On January 19, Reuben Grigsby Chandler, of the firm of Hulburd, Warren & Chandler, Chicago, died in the Presbyterian Hospital of this city. Mr. Chandler was 77 years of age, one of the oldest members of the Board and served as president in 1903.

Mr. Chandler was buried from the Fourth Presbyterian Church, a committee from the Board of Trade attending. On the day of the funeral, trading on the floor was suspended while a bugler from the Board of Trade post of the American Legion blew "Taps" and the members stood with bowed heads.

MONTREAL CORN EXCHANGE ELECTS

The Montreal Corn Exchange at its annual meeting elected Guy D. Robinson, president. A. W. Brown is vice-president. Harold W. Corrigan was re-elected treasurer, and H. C. Beatty, secretary. The Committee of Management consists of A. W. Brown, Elzebert Turgeon, M. J. Gratton, H. C. Moore, E. C. Morris, B. J. Bolan, and K. R. Ryer.

The Board of Review consists of H. W. Raphael, chairman, W. W. Hutchison, E. S. Jaques, W. McDonald, Norman Wight and H. D. Dwyer.

In his address as retiring president, J. M. Vittie said that while the grain trade had not been good during the year the Corn Exchange had been active and accomplished much.

VOLUME OF GRAIN FUTURES TRADING FOR DECEMBER AND YEAR

There was no marked change in futures trading on the Chicago Board of Trade last month, 1,413,159,000 bushels of grain being bought and sold in January compared with 1,651,884,000 bushels in December, a decline of 238,725,000 bushels. The total was divided among the various grains in the following manner, for purposes of comparison December figures being shown in parentheses: Wheat, 1,151,591,000 bushels (1,375,978,000); corn, 175,802,000 bushels (178,469,000); oats, 34,662,000 bushels (59,436,000); rye, 51,104,000 bushels (38,001,000).

Average open contracts in futures on the Chicago exchange for January "short" side of contract only being shown, there being an equal amount on the "long" side, were: Wheat, 196,559,000 bushels compared with 118,503,000 in January, 1929, and 185,959,000 in December, 1929; corn, 34,348,000 bushels against 68,461,000, January, 1929, and 34,283,000 in December, 1929; oats, 38,795,000 bushels in contrast to 25,896,000 in January, 1929, and 40,762,000 in December, 1929; rye, 18,894,000 bushels compared to 8,783,000 in January, 1929, and 22,298,000 in December, 1929. The average open contract for all grains at Chicago in January was 288,596,000 bushels against 221,643,000 in January, 1929, and 283,302,000 in December, 1929.

Volume of trading for the entire year of 1929 on the Chicago board exceeded that of 1928 by 5,000,000,000 bushels, a substantial increase. The total was distributed among the grains as follows: Wheat, 15,684,401,000 bushels in 1929 against 8,939,129,000 in 1928; corn, 4,537,201,000 bushels in 1929 compared with 6,322,027,000 in 1928; oats, 874,273,000 bushels in 1929 contrasted with 821,209,000 in 1928; rye, 370,970,000 bushels in 1929 against 396,775,000 in 1928. The total for all grains in 1929 was 21,466,845,000 and 16,479,140,000 bushels in 1928.

ADEQUATE SUPPLIES

Wheat: Very little moving from this territory. While new crop so far has had little chance of growing, we hear of very few reports of any winter killing. We have had snow covering until just lately, snow melting off slowly giving soil plenty of moisture. Everyone seems to think we are going to raise a good crop.

Corn: Receipts while not large, there has been a steady run, which has been well taken by industries and for drying and storage. Prices here have been well in line on good corn, there being a fair premium paid for heavy weight corn and the poor, light weight high moisture corn has been selling at better prices than other markets. There are indications of a larger run of receipts if roads do not break up.

Oats: Receipts are increasing some but are not at all large and it seems as the country run increased, demand has also picked up. Cash prices are about par in all markets.—*Mueller Grain Company, Peoria, Ill., letter of February 12.*

CHANGES IN MEMBERSHIP

Chicago:—The following have been admitted to membership on the Chicago Board of Trade: Max A. Witz; Harry B. Lake, of H. B. Lake & Co., Great Falls, Mont.; Jack C. Sturtevant, partner, Pynchon & Co.; Leon Regray, partner, Chegaray & Co., Havre, France; David A. Badenoch, partner, Charles D. Robbins & Co.; Ransom N. Kalbfleisch, partner, Auerbach, Pollock & Richardson, New York; Homer C. Brown, Clark Brown Grain Company, Nevada, Iowa; Edward E. Noggle, with Sherman J. Brown, Richmond, Ind.; Francis R. Burke, with Bartlett Frazier Co.; Harvey Kavaner, D. S. Paterson & Co., Winnipeg, Canada. The following memberships were transferred: Howard Froelick, Carroll V. Geran, Henry D. Sturtevant, Albert R. Mathias, James L. Cook, Joseph W. Danforth, Estate of Clark Brown, Daniel C. Hirsch, Joseph D. Carroll, George A. Veninga.

Kansas City:—Membership of E. C. Hoebel transferred to E. L. Rickel.

Milwaukee—The membership of the late Stephen L. Cobb has been transferred to James A. Gould of the Sheffield Elevator Company of Minneapolis.

Minneapolis:—Farmers National Grain Corporation and the American Elevator & Warehouse Association were admitted to corporate membership. Membership of W. G. Kellogg transferred from Archer-Daniels Midland Company to Farmers National Grain Corporation—Membership of D. O. Holsing, transferred to Harry B. Lake. Firm membership granted to Winthrop Mitchell & Co., New York and H. B. Lake & Co., Great Falls, Mont. Membership of Harris, Winthrop & Co., Chicago, recinded.

New York:—Admitted to membership in the N. Y. Produce Exchange: James H. O'Neil of Peter R. Lawson & Co.; Ferdinand F. Jelke of Frazier, Jelke & Co.; William F. Joseph of Henry Hetz & Co.; Homer W. Orvis of Orvis Bros. & Co.; Edward Newman; William M. Wright of Wright, Slade & Co.; Charles T. Mulford of Mackenzie, Williams & Co.; Peter F. Craig of Peter R. Lawson & Co.; Bert Loewenthal; James P. McCabe; James F. Graham, representative of James E. Bennett & Co. Alexander J. McDonnell, resigned as associate and elected to regular membership.

TERMINAL NOTES

William C. Karlson has been admitted to partnership in Lamson Bros. & Co. of Chicago.

F. C. Sickinger has been re-elected official flour inspector for the Chicago Board of Trade.

The St. Louis office of Lowell Hoit & Co. of Chicago, has been moved to 411 Merchants Exchange.

Walter H. Gooch, president and treasurer of the Minnetonka Elevator Company and Frank P. Heffelfinger, vice-president of the Monarch Elevator Company, have been elected directors of the Midland National Bank & Trust Company of Minneapolis.

G. W. Winston of Milwaukee has organized the G. W. Winston Company, Inc., with offices at 373 Broadway.

The corporation known as Philip H. Schifflin & Co., Inc., which operated for many years on the Chicago Board of Trade, has been dissolved.

The Niagara Frontier Industrial Traffic League recently elected as secretary, William E. Maloney, traffic manager of the Buffalo Corn Exchange.

Albert Voss, formerly with the Armour Grain Company and the McConnell Grain Corporation, is now associated with the Lewis Grain Corporation of Buffalo.

On February 1 Chicago stocks of grain were: Wheat, 22,569,000 bushels; corn, 2,757,000 bushels; oats, 4,188,000; rye, 4,976,000; barley, 396,000 bushels.

The Malden Elevator Company of Winnipeg has sold its brokerage business to D. S. Paterson & Co., but will continue to operate its elevator properties.

The Uhlmann Grain Company of Chicago recently declared a stock dividend of 60 per cent, increasing the capital stock from $1,500,000 to $2,400,000.

Thomas H. Hanrahan, president of the Buffalo Freight Terminal Warehouse Company, was recently re-elected president of the Buffalo Chamber of Commerce.

J. Dolliver Kent, president of the Des Moines Elevator & Grain Company, has been selected as chairman of the traffic bureau of the Des Moines Chamber of Commerce.

The Portland, Ore., Grain Exchange has instituted future trading in millrun at the regular grain sessions, starting February 3. Four delivery months will be traded in, 100 tons being the unit of sales.

W. H. McCarthy, general manager of the Standard Milling Company of Canada, Ltd., Toronto, was elected chairman of the grain section of the Toronto Board of Trade. E. D. Sullivan is vice-chairman.

J. H. Owens of Des Moines, Iowa, formerly with the Lockwood Grain Company and later with Taylor & Patton, has organized his own company which will be known as the J. H. Owens Grain Company.

The directors of the Chicago Board of Trade have ruled that "split deliveries, where tender is made in part of warehouse receipts and in part of carlots, are considered valid deliveries under the Rules."

John N. Frazier, who has been chief grain inspector of the Philadelphia Commercial Exchange for some years, has been made managing director of the Exchange, a new office which has just been created.

B. B. Sheffield, president of the Sheffield Elevator Company of Minneapolis and chairman of the board of the Commander-Larabee Mills Corporation, has been elected president of the Minneapolis Civic and Commerce Association.

The Northwest Shippers Advisory Board recently elected as chairman Paul F. Scheunemann, traffic manager of the Monarch Elevator Company, Minneapolis. A. E. Dypwick, traffic manager of the St. Anthony & Dakota Elevator Company, Minneapolis, is vice-chairman.

The Board of Directors of the Northwestern National Bank of Minneapolis has been strengthened by the election of Augustus L. Searle, president of the Searle Grain Company, and Thomas L. Daniels, assistant treasurer of the Archer-Daniels-Midland Company.

The Grain Growers Grain Company of Winnipeg has elected R. S. Law as president to succeed T. A. Crerar who has been made Minister of Railways for Canada. Mr. Law came to Canada from England in 1911 and was the organizer of the Alberta Farmers Co-operative Elevator Company, now merged with the United Grain Growers.

Eugene Blackford was recently elected president of the Baltimore Chamber of Commerce while on a

trip to the West Indies. The new board of directors sent a wireless to his ship the *Dutchess of Bedford:* "Extreme pleasure notify you elected president. Hurry home."

The Dallas Grain Exchange at the annual meeting held in January, elected A. A. Hart, president; Edwin B. Doggett, vice-president; and G. H. Rogers, secretary-treasurer. Members of the Board of Directors are: J. C. Crouch, D. L. Donovan, Alva Knight and Tony Brignardelle.

On February 8, Irving E. Wright, 77 years old, and for 42 years guard at the exchange hall of the Chicago Board of Trade, celebrated his golden wedding anniversary, and the event was made the occasion for a gift of flowers and general congratulations from the Chicago trade.

SECRETARY CULBERTSON LAID UP

The grain trade, particularly in Illinois, will be sorry to learn that Secretary W. E. Culbertson of the Illinois Grain Dealers Association fell on the ice on January 27, and broke his leg. At the St. Frances Hospital in Peoria, where Mr. Culbertson was taken, an X-Ray picture disclosed that an operation would be necessary to put a clamp on the bone to hold it in proper position, and it was done on February 8. He will be in the hospital

W. E. CULBERTSON

for three or four weeks, and undoubtedly will be glad to hear from his friends.

In the meantime the work of the office is being handled by Louis W. Patzer, assistant secretary. Before being injured Mr. Culbertson finished the new directory job, and the book is a fine testimonial to the hard work and care he gives to his work.

THE GRAIN MARKET SITUATION

By G. A. COLLIER

Grain, Hay and Feed Market News Service, Bureau of Agricultural Economics, U. S. Department of Agriculture.

Domestic grain markets continued unusually weak during the latter part of January and early in February with prices of the principal grains tending steadily downward. Wheat prices during January reached the lowest point for that month since 1923. This sharp reduction may be attributed principally to the slow utilization of the season's reduced supplies and the continued light export demand for surpluses in important producing areas outside of Europe. World shipments of wheat and flour during the first half of the current crop year were only about three-fourths of those for the corresponding period last season with the reduction in North American shipments accounting for even greater amounts than indicated by the total figures. With the net reduction in the season's supplies of wheat more than half offset by reductions in exports from North America and the Southern Hemisphere, world stocks at present appear but little smaller than a year ago with indications that the carryover at the close of the season will be only moderately below the large supplies in store at the beginning of the current season.

Greater utilization of the increased supplies of native wheats in Europe, less favorable economic conditions in the Orient and some other areas, larger European supplies of feed grains and large offerings from the record 1929 Argentine harvest have been principally responsible for the reduced demand for North American wheat and the relatively low prices which have recently prevailed in domestic and Canadian markets.

Prospects for some improvement in demand for North American wheat are indicated by the moderate decrease in Argentine shipments during the past few weeks and in the diminishing supplies of native wheats in some European deficit areas. Marketings of wheat in several European countries, however, continue of good volume. Offerings of native wheat in France are large and the market in that country is reported very weak. Prices have declined sharply. Marketings of native wheat in Italy are also of good volume and shipments from Danubian countries continue relatively large. Exports from these countries since the first of August have totaled approximately 15,000,000 compared with about 2,000,000 bushels shipped out during the corresponding period last season. Black Sea shipments are also fairly large and during the past two weeks have included Russian shipments totaling nearly 1,000,000 bushels. Stocks of wheat in Europe are fairly large, according to trade reports. United Kingdom port stocks at the first of February totaled 15,120,000 bushels with Liverpool port stocks showing a slight increase since that date. Stocks of wheat on ocean passage had been increased to 37,632,000 bushels at the close of the first week in February.

Canadian market stocks have been decreasing at a moderate rate since the middle of January and at the close of the first week in February were reported at 221,000,000 bushels compared with 13,000,000 bushels a year ago. United States commercial stocks of wheat have been decreasing at the rate of two to three million bushels per week but at the first of February were still nearly 40,000,000 bushels larger than at the corresponding time last year and totaled 168,361,000 bushels. Argentine market stocks were reported at 9,000,000 bushels February 7.

World exports of wheat and flour since the first of August have totaled only 328,000,000 bushels compared with 484,000,000 for the corresponding period last year. Of this season's shipments about half, or 162,500,000 bushels, were from North America. North American shipments last season, however, from August through January totaled about 317,000,000 bushels. Argentine exports during this period totaled 98,500,000 bushels compared with about 76,000,000 bushels for the corresponding period last season.

Argentine wheat is still underselling wheat from other Ex-European countries. Argentine 63½-pound Rosafe wheat was quoted in Liverpool February 7 at $1.23⅛ compared with quotations of $1.25½ for U. S. No. 2 Hard Winter, $1.40 for Canadian No. 2 Manitoba, $1.24¾ for Canadian No. 5 Manitoba and $1.29¼ per bushel for Australian wheat afloat.

CASH WHEAT PRICES FIRMER THAN FUTURES

While cash wheat prices have tended steadily downward with the decline in future markets, they have held relatively firmer with fluctuations less marked. When cash prices had declined to a level with the loan value established by the Farm Board moderate sales of Spring and Winter wheat on the basis of these loan values had a strengthening influence on the cash market. Protein premiums became relatively unimportant although mills at this writing (February 8) are offering some premiums above the loan basis for desirable milling types. Milling demand has been fairly active but export inquiry continues very limited. Some No. 2 Hard Winter wheat is moving to Mexico on the basis of domestic quotations, which at this writing are equivalent to $1.23¾-$1.24½ delivered Texas common points. Export bids February 7 were around $1.24½ f.o.b. Galveston for No. 1 Hard Winter and $1.22¾ for No. 2 Hard Winter wheat f.o.b. New York. These bids were generally below current prices and little trading was accomplished.

Receipts of both Spring and Hard Winter wheat have increased materially since the first of February as a result of better road conditions and the better prices being paid for country run wheat. At the close of the market February 7 No. 2 Hard Winter was selling mostly at $1.13 per bushel at Kansas City, which was equivalent to the loan values established by the Farm Board. No. 1 Northern and No. 1 Dark Northern were quoted at Minneapolis at $1.25, No. 1 Durum at Duluth at $1.12, No. 1 Hard Winter at Chicago at $1.18 and No. 1 Red Winter at St. Louis at $1.25 per bushel. While mills were paying some premiums over these prices for particular milling types, some milling wheat was being sold from store at a few cents discount under the loan basis.

IMPROVED DEMAND STRENGTHENING MARKET FOR FEED GRAINS

Prices of the principal feed grains tended downward during January influenced principally by the decline in wheat prices. At this writing, however, demand has improved with feeders, industries and shippers actively in the market, particularly for corn. The advance in hog prices has also been a strengthening factor in the corn market. Colder weather has improved the quality and some No. 2 and 3 grades are now being offered at the various markets. Receipts of corn have increased as a result of the improved quality and better road conditions. Industries have been the principal buyers at Chicago with shippers taking only moderate amounts. In southwestern markets millers have become active buyers of White corn of good quality with industries absorbing the high moisture grain. Mixed feed manufacturers are taking the drier grades of Yellow and elevator interests have become more active buyers of all grades.

Receipts at the principal markets have been relatively small and have totaled only about 84,000,000 bushels since the first of November. This compares with approximately 120,000,000 bushels received at the same markets during the corresponding period last season. Market stocks have accumulated slowly and at the first of February totaled only about 16,000,000 bushels. This is the smallest amount in store for this date since 1925. While improved road conditions and the approach of the tax assessment period will probably tend to increase country marketings, the location of corn supplies in relation to livestock numbers to be fed suggests only moderate marketings of corn during the principal feeding period.

The oats market developed a somewhat firmer tone during the first week in February with a moderate demand prevailing for the relatively small offerings. Future prices at Chicago advanced about one cent per bushel during that period and cash corn generally followed the advance in the future markets.

Fairly large stocks of oats accumulated in the markets early in the season but these have been slowly reduced during the past month and at the first of February totaled about 26,000,000 bushels. This is about 10,000,000 bushels more than were in store a year ago. No. 3 White oats were quoted at Chicago February 7 at 44¾-45½ cents, at Minneapolis at 41⅜-42⅜ cents and at Kansas City at 45¼ cents per bushel. No. 3 White oats from northern markets were quoted delivered Texas group 1 points at 55½-56 cents per bushel while No. 3 Red oats were being quoated at 59-60 cents delivered Texas common points. Fall sown oats in the South and Southwest have suffered severe winter damage, according to trade reports.

Editor American Grain Trade:—I have read your paper, the AMERICAN ELEVATOR AND GRAIN TRADE, for some time and find it a great help as I work at the millwright trade, mostly on grain elevators and feed mills.—EDWARD B. BANKS.

RYE yields in Illinois average 14.5 bushels per acre.

Hints for the Elevator Millwright

In Which Two Methods of Saving Labor and Money Are Explained by Big Bill Davis

By JAMES F. HOBART

"HOW did you happen to put in those streaks of new work on the outside of this elevator?" inquired Big Bill, as he sat in the office, sampling the owner's cigars. "There seems to be some new work on two corners of the house. What happened to make such work necessary?"

"Lightning," tersely replied the elevator owner. "It seems as if we cannot have a thunder shower without this elevator getting hit by lightning. Sometimes it does no damage, but twice last summer it tore off the outside of the building, making renewals necessary as you have seen, and I am surely getting tired of it."

"Why don't you put some lightning rods on the building?" inquired Mr. Davis. "Some well-designed and properly erected lightning rods would carry away the electrical discharge without damage to the building, and, Mr. Owner, if you do not put up some good rods, some day, lightning will surely hit into a cloud of dust in your elevator and then—well, you won't have any elevator."

"We used to have rods on the building, Mr. Davis, but a storm came up one day and did more damage than any other storm, before or since. It actually melted some of the lightning rods and tore out a lot of siding and exterior finish. Since then, we have not had any rods and although the elevator has been hit many times, no great damage has been done."

"I believe, Mr. Owner, that it was very lucky that you had rods on the building at the time you mention, for, it appears to me, that the discharge was evidently so heavy that the lightning rod was unable to carry all of it, but it did conduct away enough of the enormous amperage to actually melt and burn up the metal of the conductor, the remainder of the very heavy discharge, tearing up the building some. But evidently the rods carried away all the current possible, and what would have happened to your elevator had not those rods been on it? Furthermore, were not those rods very small in section, and consequently unable to carry away a very heavy electrical discharge."

"Do you really think, Mr. Davis, that lightning rods of large section would protect the elevator building against lightning discharges?"

"There is not a doubt of it, Mr. Owner. Put up sturdy rods and avoid in future, what will possibly be disaster to this elevator, which, for some reason, seems to be just where lightning likes to hit."

"But, Mr. Davis, heavy copper lightning rods run into good money very fast and it would cost me a small fortune to rod the building thoroughly with such heavy rods!"

"Why copper, Mr. Owner? We do not care if lightning rods are not extremely low in resistance, therefore, steel will answer very well in place of copper. Now, here is a chance for you to rod the plant thoroughly at very little expense."

"What is that pile of pipe out there beside the elevator for? It's one-inch pipe, isn't it?" Big Bill asked suddenly.

"Yes, there are hundreds of feet of pipe out there from the steam dryers which we threw out last summer. There is a lot of good pipe in that pile, too."

"Then, Mr. Owner, there are your lightning rods, good big ones, too. Just screw together enough of those pipes to form all the rods you wish. Put up three or four lines and drive the lower pipe into the ground as far as it will go easily, say from six to 10 feet. Do not use lead and oil in the pipe threads.

"As you have plenty of pipe, I would run each rod from its point above the building to the ground as directly as possible, instead of branching one grounded rod to two or three points. Have the blacksmith make some points, either from solid steel which should be pipe-threaded to fit a coupling on top of each rod. Or, the smith may take some inch nipples, weld one end and draw it to a point, taking care not to damage the thread on the other end of each nipple. This will avoid the necessity of threading the points after they have been made from steel rod material.

"In either case, it will be well to make the points rust-proof, either by covering them with goldleaf, or by galvanizing them, for which purpose the points may be sent to the nearest galvanizing shop. In case such a shop is not available, you can zinc coat the points yourself, soaking them over night in a strong solution of lye or potash until every vestige of grease is removed, then wash off all the lye and immerse in dilute hydrochloric acid, and while still wet with the acid, after all the rust and scale and dust have been loosened and rubbed away, then, with the point still wet with acid, dip it slowly to avoid spattering the hot metal into a ladle of melted zinc. Gradually insert the point until it is completely immersed and heated to the temperature of the melted zinc. Then remove the point, and, if it was clean when immersed, it will be well and completely coated with zinc.

RIGGING ELEVATOR BELT AND BUCKETS

"What are you going to do with all that duffle?" asked Big Bill Davis, as a truck backed up to the elevator door and unloaded a light hoisting tackle consisting of a pair of double pulley blocks and several hundred feet of three-quarter-inch Manila rope, together with another rope or two and a set of heavy belt clamps and a big roll of 12-inch belting.

"We are going to rig a new belt and buckets on the receiving elevator," said the owner, "and that tackle is for hoisting the belt and buckets to the top of the house and for pulling the belt tight after we get it around the head and foot pulleys in the receiving leg."

"Phew!" said Big Bill. "Why do you work so hard at that job and hoist every thing to the top of the house just for the work of letting it down again? You might use one of those lines for threading the belt around the pulleys, but I don't see where it, or those big belt clamps, are needed on this job."

"Say, Mr. Davis, if you have an easier way of rigging that belt and its cups, then, just you 'spill it,' right now!"

"All right, Mr. Owner, I'll do it. Unroll that new belt, then space and bore or punch the bolt holes and we will put the belt and buckets in place in a 'pea-green hurry.'"

"All right, I'll have the men clear away the box over the elevator head and get the old belt off the pulleys."

"Hold on a minute, Mr. Owner. If the old belt is still in place, just leave it there for the present and we will not need any of those ropes, or the belt clamps either."

Mr. Davis had the new belt unrolled and made a board as wide as the belt, nailed a light cleat on one edge of the board to slide along the edge of the belt and keep the pattern board fair with the belt at all times. In the board, he laid off holes to fit those in the new buckets. He bolted two buckets to the board at a distance apart which the buckets were to be spaced on the new belt. One pair of holes in the pattern board were bored for the elevator bucket bolts. The other pair of holes, at the proper distance from the first pair of holes, was carefully bored to fit the holes in the buckets, then these holes were enlarged to admit a belt punch which would make a hole of the right size for the bucket bolts. Big Bill found that the board was long enough for the laying out of another, or third pair of bolt holes, so he made the third pair of holes to fit the belt punch.

The pattern board was then placed on the new belt at a proper distance from one end and a pair of holes punched for bucket bolts, then, a pair of bolts were driven into the first pair of holes in the pattern and these bolts slipped into the pair of holes in the belt. Then, the belt punch very quickly made holes through the remaining two pairs of holes in the pattern board, a piece of board being placed underneath the belt to protect the punch and the floor.

Then the pattern board was moved again, its bolts juggled through the farthest pair of holes and two more pairs of holes punched quickly. These operations were continued until the belt had been punched along its entire length.

While workmen were doing this work, Big Bill had another man opening the elevator leg at the bottom, just in front, and on top of the boot, but would not let the old belt be removed, although it was unfastened at the patch-bolted splice and the ends temporarily tied together. Mr. Davis had all the bolt holes punched from that side of the belt which was to run next to the pulleys. He said that this made it much easier to insert the bolts, as that side of the belt had the holes temporarily stretched a little by the punch. Before half the bolt holes had been punched, Mr. Davis had one end of the new belt bolted to the back, or down-moving end of the old belt. To do this, the joint-patch was removed from the old belt and as the patch was in good condition, it was used again on the new belt. Mr. Davis laid the patch on the new belt, making use of that end of the patch which was on the down-moving end of the old belt. Two holes were then bored in the new belt, through the two holes in the patch. Then, bolts were passed through these two holes in the new belt and also through the two patch-bolt holes in the down-moving end of the old belt on the back of the foot pulley.

While the men were still punching bolt holes, Mr. Davis sent a couple of men to the top of the elevator to take the driving belt off of the elevator head, and as ordered, to turn the elevator head in a backward direction, this slowly drawing the new belt into and up the elevator leg. As the elevator was moving backwards, the old belt and the buckets came down on the front side of the elevator and a couple of men pulled the old belt and its buckets out of the way as it slowly came down while the men turned the near pulley backwards.

The elevator almost ran itself after the new belt end arrived at the head pulley the load of buckets almost causing the head pulley and its driving gear to over-run, but that was easily controlled by "snubbing" the new belt as it was drawn slowly into the elevator boot. Pretty soon, the old belt was all out and the new belt in, hanging down on both sides of the head pulley.

The old belt was then unbolted from the new one and removed from underfoot and the back end of the new belt brought under the foot pulley after that pulley had been raised to the maximum height permissible. Then, the belt was brought up to the end of the belt which carried the two joint-patch bolt holes and the back-end of the new belt was cut off fair with the other end and holes made for the joint patch which was put in place, the bolts inserted and screwed home.

Mr. Davis then set two men to putting on buckets, close to the elevator foot. There was an opening into the elevator leg about half way to its top and the cover from this opening was removed and two more men set to bolting on buckets at that point. One man was kept at the elevator head-drive pulley and as fast as buckets were bolted in place, he moved the belt ahead by turning on the drive pulley.

As soon as 8 or 10 buckets had been bolted in place, the elevator belt was moved ahead 10 or 15 feet and another bunch of buckets bolted in place, when another belt move was made. Putting on the buckets in bunches in this way, kept the bucket load on the belt divided, so it was easier to move the belt ahead, far easier than if the buckets had been bolted on in a solid row. By working in this manner, no hoist was needed to pull the new belt to the top of the elevator, or to hoist a bunch of buckets to the top of the mill. Neither were the belt clamps needed, as the head pulley sustained the entire weight of the belt and it was easy to pull the back end of the belt around the foot pulley into its proper place and hold it there until cut off and patch bolted.

TRADE NOTES

During the month of January the Zeleny System was installed by the Zeleny Thermometer Company, 542 So. Dearborn Street, Chicago, in 27 bins for the Chicago, Burlington & Quincy Railroad Company at St. Louis, Mo.

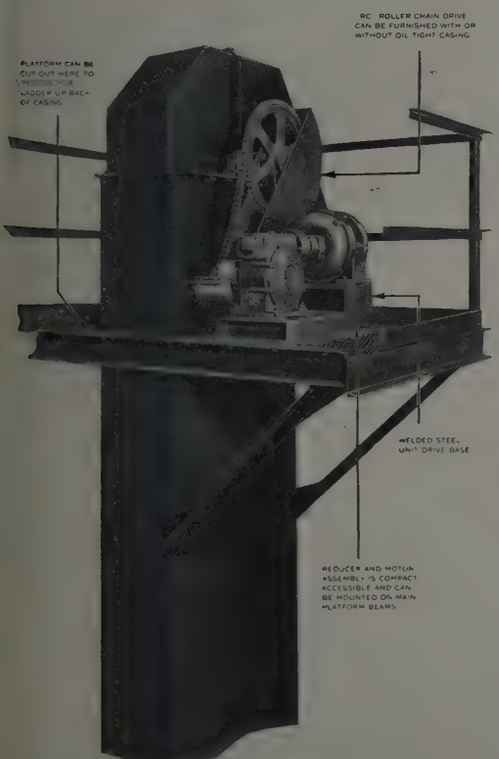
The O. W. Randolph Company of Toledo, Ohio, this year is celebrating its sixteenth year in the grain drying business. Entering the field when it was supposed that only the largest elevators could operate a drier successfully, the Randolph company has demonstrated through the years that elevators of almost any size can find profit in properly conditioning grain before shipping. This doctrine has found advocates in practically every grain state in the Union and in many foreign countries.

Increasing the handling capacity of an elevator was always considered quite an undertaking and meant a lot of rebuilding and new belts and legs and whatnot, until the K. I. Willis Corporation of Moline, Ill., demonstrated that the mere substitution of Superior Elevator Cups for the old kind, would enable the same leg and belt to handle materially larger quantities of grain because of the rapid and perfect discharge of the new cup. More cups and greater speed are now possible, and if you have a problem of this kind it would pay to get exact information from the K. I. Willis Corporation.

Grain dealers contemplating building an elevator will be interested in a new source of consultation service. Ross B. Wilson, formerly with the James Stewart Corporation for eight years and before that with the Burrell Engineering & Construction Company, has opened an office at 332 South La Salle Street, Chicago. Mr. Wilson believes the time has be n reached in the grain business, along with other lines of industry, when owners and operators are realizing that expert assistance in all operating problems pays high returns on a small investment. His extensive experience in both the mechanical and struchtural phases of grain elevators, flour mills and allied work, has fitted him for this service.

NEW ELEVATOR DRIVE

A new standardized drive for elevators has just been announced by H. W. Caldwell & Son Company of Chicago. This drive is compact, efficient and positively quiet at all speeds. It is built to operate centrifugal discharge, perfect discharge or continuous bucket elevators requiring 3 to 15 horsepower. The entire line is standardized and carried in stock.



CALDWELL ELEVATOR DRIVE APPLIED TO A CENTRIFUGAL DISCHARGE BUCKET ELEVATOR

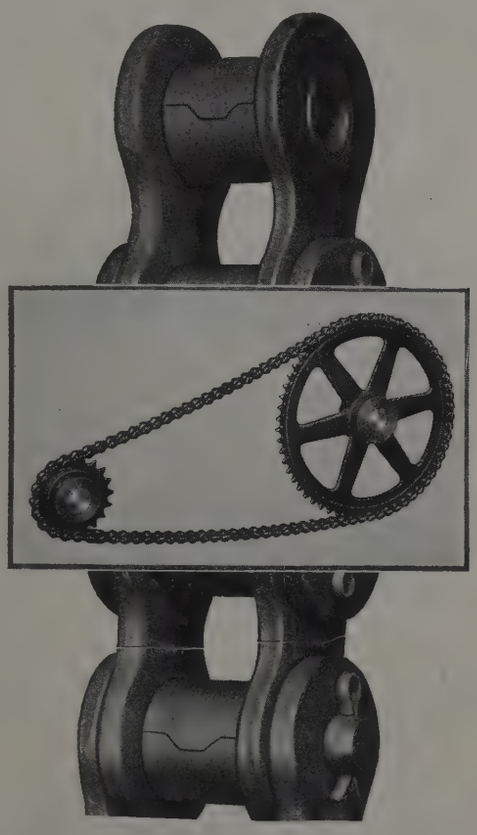
The first reduction of the drive is made up of a ruggedly built fully enclosed worm gear speed reducer to which a motor is coupled. The motor and the worm reducer are accurately aligned on a welded steel base, making a compact assembly easily supported on the elevator casing or platform.

The second reduction in speed is made by a Link-Belt Roller Chain Drive, which was selected because it furnishes a maximum of strength, durability, efficiency and quietness of operation, combined with a minimum of weight and of space required. It also acts as a flexible connection between the reducer shaft and head shaft.

A new book, No. 1086, just published, is devoted to the construction of the unit and illustrates installations. This book will be sent upon request.

OVERNIGHT SERVICE ON CHAIN DRIVES STARTED BY PROMINENT MAKER

To one who is at all observant of what is going on in the field of industry, it is apparent that better distribution of materials and supplies is a definite trend of the times, and this is not surprising, for it is the next logical step following the simplification program which was so skillfully fostered by President Hoover while he was Secretary of Commerce.



TYPICAL LINK-BELT ROLLER CHAIN AND STOCK DRIVE

One result of this movement toward better distribution is the locating of large stocks of standard parts required by industry, in stategic centers throughout the country—a result which benefits both the maker and user. Coupled with the trend toward simplification, it reduces losses formerly incurred by users in paying premiums of time and money for special goods shipped from distant points.

An exponent of this modern distribution efficiency is the Link-Belt Company, Indianapolis, Ind., known for over 50 years as a manufacturer of power transmission and materials handling equipment. Silent Chain Drives have been stocked by Link-Belt distributors for six years. Now comes the latest extension of this power transmission service with the stocking of Link-Belt Roller Chain Drives (the two wheels and the chain) by local distributors, on about the same basis.

These two types of drives, Silent Chain and Roller Chain, are employed in a large percentage of all power transmission jobs, and their quick availability throughout the country constitutes a service which is convenient and economically desirable.

The Roller Chain itself, shown in the illustration, has long been carried in stock by distributors, but the Link-Belt plan includes the carrying in stock by distributors, the sprocket wheels as well.

Roller Chain is capable of carrying heavy loads at moderate chain speeds, and is extremely durable and efficient on second reduction drives and similar applications.

SPROUT, WALDRON & CO. ELECTS NEW PRESIDENT

At the annual meeting of the stockholders of Sprout, Waldron & Company, Muncy, Pa., held January 1, 1930, Charles M. Waldron, vice-president,

PRESIDENT CHARLES M. WALDRON

was elected president, to succeed F. M. Sprout.

Mr. Waldron is a son of the late John Waldron, one of the founders and former president of the company. His entire life has been devoted to service for the company. He received his early training in the engineering department and on the road as a sales engineer. The last 20 years have been spent in the home office in sales promotion and production work, which has made him thoroughly familiar with every phase of the business. Activated by a desire to see the business grow, and to better and widen the service of his company, we bespeak a future of continued prosperity for the company which he heads.

At the same meeting, H. M. Soars, who has been sales engineer for New England, was elected second vice-president, and promoted to sales manager. Mr. Soars has a thorough knowledge of the requirements of the trade; knows the Monarch products and the facilities of the company to meet the requirements of industry.

The treasurer, Stephen Soars, and secretary, J. Russell Smith, and the first vice-president, N. L. Vredenburg, continue in the offices which they have held for a number of years.

U. S. BUILDERS IN RUSSIA

About a third of the construction engineers who signed up for foreign service with the Macdonald Engineering Company, Chicago, and who arrived in Russia February 13, will enter at once upon the grain mill and elevator projects in the U. S. S. R. Macdonald contracts with the Soviet government involve plants costing around $100,000,000.

NEWS LETTERS

ST. LOUIS
FAIRMOUNT CORRESPONDENT

THE following transfers of memberships are noted: Elliot K. Ludington, Jr., now connected with the Chase Bag Company, transferred from Edward K. Ludington, Sr.; A. W. Abraham of the Wayne Feed Mills from L. G. McMillen; Daniel P. Moore, familiarly known to the members as "Dinty" Moore, has entered the employ of the J. C. Shaffer Grain Company. Mr. Moore was formerly with the Missouri Elevator & Grain Company and the Valier & Spies Milling Company; Herman A. Von Rump, formerly head of the Von Rump Grain Company of this city, who retired from business some months ago, is now located at Rogersville, Mo.

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Josh Chilton, manager of the Checkerboard Elevator Company, returned on January 25 from an extensive southern trip where he visited the mills in that territory.

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Walter J. Kring has been appointed chief clerk of the St. Louis Merchants Exchange, succeeding Hanlon Kane, who resigned.

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The Merchants' Exchange has protested to the United States Chamber of Commerce against the Government entering into private enterprise and against established business.

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The Aviston Milling Company of Aviston, Ill., has moved its headquarters to St. Louis, Mo., from Aviston, Ill., and will operate a warehouse, Eighth and Brady in East St. Louis, Ill. They will handle flour and feedstuffs of all kinds. The mill at Aviston was destroyed by fire several months ago.

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J. E. Bennett of J. E. Bennett & Co. located at Chicago was a visitor on the Merchants' Exchange during January.

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J. J. Knight, vice-president and general manager of the Equity Union at Kansas City, was a visitor on the Merchants' Exchange on January 30. Mr. Knight is also a member of the Board of Managers of the Farmers' National Co-operative Association.

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The Plant Flour Milling Company has moved its office to the Planters Building so as to secure larger quarters.

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Mrs. Albert Stokes, the wife of Albert Stokes, a member of the firm of Stokes & Barkley Grain Company, was severely injured at 7th and Olive Streets during January, having been struck by an automobile. She is reported as recovering.

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Lowell Hoit & Co. of Chicago have moved their office from the Pierce Building to the Merchants' Exchange Building where they have secured more convenient quarters.

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At a dinner of the Flour Club held at the Lenox Hotel on January 28, an election of officers was held, resulting in the election of Russell Penn of the Pillsbury Flour Mills, as president; Hugh Harris of the Hugh Harris Company, as vice-president, and of A. F. G. Raikes of the *Northwestern Miller* as secretary and treasurer.

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The St. Louis Grain Club held a dinner on Tuesday, February 11, at the Lenox Hotel. After the dinner they attended a theatrical performance at the Orpheum Theatre.

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Paul C. Knowlton, president of the Knowlton Grain Company, is the youngest head of a grain firm on the St. Louis Merchants Exchange. Mr. Knowlton is 34 years of age and was born at Northampton, Mass., famed as the home of former President Calvin Coolidge. His early education was in the grammar schools of Northampton, Mass. He left there with his parents at the early age of 12 years, his family moving west to reside at Kirkwood, Mo., a residential suburb of St. Louis. His father became manager of the Corticelli Silk Company of St. Louis. His further education was at local schools at Kirkwood, later finishing his studies at the University of Missouri at Columbia, where he graduated.

Mr. Knowlton's first position was in the office of Goffe & Carkener Company, later becoming a member of the corporation with George C. Martin under the name of the Martin-Knowlton Grain Company. Later on the dissolving of the above corporation, he entered into business under his own name as the Knowlton Grain Company. He became a member of the St. Louis Merchants Exchange in 1919. Mr. Knowlton has been a close student of the grain business in all its angles. He is a good judge of all kinds of grain and their quality and grades. He is also a close student of market possibilities and his judgment is sound. As a trader his inherited Yankee shrewdness is evident. He has been very successful in his business ventures. Recognizing his excellent business qualifications he was elected a director of the St. Louis Merchants Exchange in January 1930, becoming one of the youngest members elected to this office. He is affable and polite in his manner and very well thought of by the membership who recognize his ability, shrewdness and sound judgment.

Mr. Knowlton is married and has two children, a boy and a girl. He is a member of the Episcopal church and his hobbies are hunting and golf. A successful future is forecast for Mr. Knowlton.

INDIANAPOLIS
H. M. RUDEAUX CORRESPONDENT

ADVERSE weather conditions and the unsettled market are responsible for light receipts of grain. In most parts of the state the hauling of heavy loads on improved roads is forbidden, and consequently little grain is moving from the farm to the elevators. The demand is only fair and the light receipts are being disposed of without much difficulty. Reports indicate that some difficulty is being encountered in getting billing instructions on contract purchases, however, the situation has not become serious. Advices on consignments are poor, although it is expected that a heavy movement will be on during March. Most of the arrivals of corn are moving on a river basis, with only a limited demand from eastern markets. Oats of good color and heavy in test are in good demand and being recleaned for seed. Arrivals are very light. Good milling wheat is in demand, and arrivals are poor and below normal.

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Gilman Stewart, age 12, of Greensburg, Ind., is the proud possessor of the junior corn championship of the state. Gilman's 10-ear entry of Reid's Yellow Dent corn in the 4-H Club show, was awarded the grand sweepstakes. His father, A. C. Stewart, had just previously been awarded the sweepstakes on yellow corn in the state corn show. Lowell Morris, of Rushville, took the reserve championship.

* * *

The Domestic Feed & Grain Company, have moved their offices to 618 Board of Trade Building. The new quarters are larger and will give the company the necessary room required to conduct their growing business. The room formerly occupied by the company has been taken by the Domestic Feed and Grain Company, who, in addition to room 626 will occupy room 627.

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On January 16, Purdue University announced awards at the state grain show. Indiana's corn crown was awarded H. L. Colbert, of Washington, Ind., whose 10-ear entry of Johnson County White corn received the grand sweepstakes at the state corn show. The show, held in connection with the annual agricultural conference at Purdue University, attracted 527 entries. The 10-ear sample that won the state's highest honors for Colbert had previously won sweepstakes honors in Division 4 of Indiana and also won the sweepstakes in the White corn class. It was Colbert's day at the show, for in addition to his grand sweepstakes honors, his entry of Johnson County White shelled corn also took the blue ribbon in the new certified seed class of the show.

Reserve sweepstakes honors went to Ed N. Lux, of Waldron, who also exhibited Johnson County White and, in addition, won sweepstakes honors in Division 3 of the state.

Sweepstakes on Yellow corn went to A. C. Stewart, of Greensburg, with a 10-ear sample of Reid's while sweepstakes on mixed corn went to Newton Halterman, of Rushville with a 10-ear sample of gold-medal mixed. In the state small grains show, Charles H. Smith, of Cutler, took sweepstakes honors in wheat on his entry of Michigan Amber, while Jacob Mundell, of Frankfort, a consistent exhibitor and winner, took sweepstakes honors on soy beans with his entry on Dunfield variety. Sweepstakes honors on oats went to A. D. Harpel, of Crawfordsville, with an entry of Sensation oats.

* * *

Fire of undertermined origin followed by a dust explosion destroyed the Cottrell Bros. grain elevator in the Prairieton road south of Terre Haute, Ind., January 31, with a loss of several thousand dollars. Parts of the office, garage and engine room was all that was left. An investigation indicated a small fire had started in the top of the elevator, eating down until it reached the "dust-room". About a carload of grain was in the elevator at the time and an automobile also burned. Company officials would make no estimate of the loss until a complete check had been made.

* * *

The demand for millfeeds is showing some improvement, although little is being booked far in advance. Buyers are reluctant about buying in large round lots, and sales of mixed cars outnumber those of straight cars of any one kind of feed. While the market has been declining for sometime and some concessions have been made to secure bookings, very few dealers' covered their future requirements, and still contend that prices will go lower.

* * *

The demand for hay is very poor, and owing to the large quantity of inferior hay being forced on the market, prices have dropped materially during the past 10 days. There is a good to fair demand for top grades of Timothy, but mixed varieties are draggy and hard to dispose of.

NEW YORK
C. K. TRAFTON - - CORRESPONDENT

THE gratifying expansion in the volume of business done in the securities market on the New York Produce Exchange during its first year of operation continues to attract new members from among houses interested in marketing of stocks, bonds, etc. During the past month nine such applicants were elected to membership. At its mid-January meeting the Board of Managers admitted the following: James H. O'Neil of Peter R. Lawson & Co.; Ferdinand F. Jelke of Frazier, Jelke & Co.; William F. Joseph of Henry Hetz & Co.; Homer W. Orvis of Orvis Bros. & Co.; and Edward Newman. At the early February meeting the following were elected: William M. Wright of Wright, Slade & Co.; Charles T. Mulford of Mackenzie, Williams & Co.; Peter F. Craig of Peter R. Lawson & Co.; Bert Loewenthal and James P. McCabe.

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Alexander J. McDonnell, a trader in the securities market, who recently resigned his associate membership in the New York Produce Exchange, has been elected to regular membership.

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Henry Leverich, for many years a prominent member of the grain trade, latterly as representative for James E. Bennett & Co., is now connected with the firm of Jackson Bros., Boesel & Co.

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Two more representatives of firms engaged in the marketing of investment securities, desiring to do business in the Securities Market on the New York Produce Exchange, have applied for admission to

membership. They are Clarence A. Buckstein of E. H. Rollins & Son and Ralph Irving of Ralph Irving & Co.

* * *

Arthur C. Sullivan of D. Sullivan & Co., vessel and insurance agents on the Chicago Board of Trade, spent a few hours on the New York Produce Exchange late in January.

* * *

Stock sales (including rights and warrants) in the securities market on the New York Produce Exchange for the month of January, 1930, aggregated 1,934,410, compared with 2,864,333 for December, 1929, which was the largest total on record. The January total was more than three times as large as for January, 1929, when the total was 576,268.

* * *

M. D. Moore, ocean grain freight broker on the New York Produce Exchange, has announced that Henry A. Zinner is no longer connected with their organization.

* * *

Richard F. Uhlmann, secretary and treasurer of the Uhlmann Grain Company on the Chicago Board of Trade, is an applicant for membership in the New York Produce Exchange.

* * *

James E. Bennett, head of the old commission firm bearing his name, paid a brief visit to members of the grain trade on the New York Produce Exchange late in January.

* * *

Edward S. Westbrook, vice-president of the Bartlett, Frazier Co., of the Chicago Board of Trade, was one of the recent visitors on the New York Produce Exchange.

* * *

Members of the New York Produce Exchange Bowling League continued to topple the pins with considerable vigor during the past month with the result that a new high record score for the season was established. The prizes for highest actual scores were won by: Trafton with 245; Connor, 235-211; C. Lambert, 224; Bomm, 220. Winners of prizes for best scores with handicaps were: Terry, 263; Kane, 262; Trafton, 260; C. Lambert, 256; Keller, 249.

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According to a notice posted on the bulletin boards of the New York Produce Exchange early this month—"All of the business carried on and contracts executed under the name of G. Schilperoort will be continued and assumed by Schilperoort & Verbeet."

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The committee in charge of the securities market on the New York Produce Exchange distributed early this month the fourth edition of "Securities Guide", comprising 224 pages and containing analyses of more than 350 companies whose issues are designated for trading on the floor of the exchange.

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Harry B. Godfrey, a member of Bartlett Frazier Co., Chicago, was an early February visitor among members of the grain trade on the New York Produce Exchange.

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Trading in tickets of membership was quiet during the past month and the market developed a slightly easier tone. Regular memberships, which had previously commanded $8,700, sold between $7,800 and $8,500, after which there were said to be sellers at $8,000 and buyers at $7,000. Associate memberships, which were quoted nominally at $6,000, are now nominally $4,500@$5,500.

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James F. Graham, representative of James E. Bennett & Co., was elected to membership at the early February meeting of the Board of Managers.

* * *

The Entertainment Committee in charge of the Annual Dance and Show of the New York Produce Exchange Bowling League, which will be given at the Hotel Astor on March 28, reports that excellent progress is being made all along the line. The comedy cast, which will present a former Broadway success, has been rehearsing diligently for over a month and are showing very good results, while the musical and dancing casts, consisting of soloists, choruses and ensembles is all ready for six weeks of intensive work. The committee promises "Riots of Laughter" to be followed by dancing to the music of one of the most popular orchestras in the city.

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Edwin J. Kuh, Jr., of the Chicago Board of Trade, who recently spent about three weeks with his family in Bermuda, stopped off in New York on his way home and spent a few hours with his many friends on the Produce Exchange.

* * *

Notice of the death of Fred M. Bennett was posted on the bulletin boards of the New York Produce Exchange on January 11 and brought forth many expressions of regret, especially from veterans of the grain trade. Mr. Bennett, who was 73 years of age, had been active in the grain market for many years, representing various leading firms, including the Hallet & Carey Company of Minneapolis and the Nye, Jenks Grain Company of Chicago.

* * *

Members of the New York Produce Exchange, and especially the "Old Timers", heard with great regret that Archibald Montgomery, Jr., had passed away on January 12. For many years Mr. Montgomery had been an active figure in the grain, cotton-oil, and securities markets, being a member of the old firm of Maguire & Jenkins.

MINNEAPOLIS

ALBERT W. MORSE CORRESPONDENT

ANNOUNCEMENT of figures for the month of December, 1929, shows wheat receipts at Minneapolis, Duluth and Superior as 8,476,000 bushels, while in the same month for 1928 there were 15,342,000 bushels.

* * *

The Chamber of Commerce of Minneapolis granted corporate membership to the Farmers' National Grain Corporation on February 7. Under date of February 4 a notice was sent the Chamber from Archer-Daniels-Midland Company, saying they had no further interest in the membership standing in the name of W. G. Kellogg. A notice from the Farmers' National Grain Corporation dated February 6 said they were the owners of the membership standing in the name of W. G. Kellogg.

* * *

Charles Sherman Watts, a member of the Chamber for 40 years, passed away at Hillcrest Hospital, Minneapolis, at 5:30 on the morning of February 3, following an illness of several weeks. Funeral services were conducted in St. Paul's Episcopal Church, and interment was in Lakewood Cemetery. He represented J. S. Bache & Co. of New York on the Minneapolis market, and was chairman of the membership committee of the Chamber. His career as a grain man started in 1890, when he became a member of the Chamber, and at various times he was associated with A. B. Taylor Company, Daggett & Co., and Ware Leland Company, and he was in business for himself. Mr. Watts was born in French Gulch, Calif., on August 7, 1865, and in 1875 he moved to Minneapolis, where he was educated in the public schools. He married Edith Waite of Minneapolis in October, 1888. Surviving are Mrs. Watts, two sons, Ellis C. Watts of Minneapolis and Carl Watts of Poulsbo, Wash.; and two sisters, Miss Grace Watts and Mrs. Henry Lick of Minneapolis. A brother, Henry Watts, who was a member of the Chamber, passed away several years ago.

THE LATE CHARLES S. WATTS

* * *

Transfer of membership in the Chamber of D. O. Holsing to Harry B. Lake was made on Jan. 21.

* * *

Harris Winthrop & Co., Chicago, requested that their firm membership be rescinded, and this action was taken by the Board of the Chamber on January 21. On the same day the privilege of firm membership was granted to Winthrop, Mitchell & Co.

* * *

H. B. Lake & Co., Ford building, Great Falls, Mont., were granted firm membership in the Chamber on January 21.

* * *

American Elevator & Warehouse Association was granted corporate membership in the Chamber on February 3. At the same meeting of the board, the corporate membership of Northland Elevator Company was rescinded at its request.

BUFFALO

ELMER M. HILL CORRESPONDENT

BUFFALO'S grain storage capacity will be increased another 500,000 bushels as the result of plans announced by the Ralston-Purina Company, feed manufacturers, for the construction of an addition to its plant in Prenatt Street involving an expenditure of approximately $150,000, exclusive of equipment. The company's grain elevator now has a storage capacity of 500,000 bushels so that the second unit will give the Ralston-Purina Company, a total storage capacity of 1,000,000 bushels. The Jones-Hettelsater Company of Kansas City has been awarded the contract for the structure which will be of reinforced concrete construction. It is planned to have the new unit in operation early in the summer.

* * *

Although operation of the New Hudson Bay Railway will be taken over by the Canadian National Railways this year, leading factors in the grain trade do not believe it will be of major importance in the movement of Canada's wheat crop for several years. By August the Dominion Government's railway system should inaugurate regular service to Fort Churchill on the Hudson Bay. There is, however, considerable work to be done before grain can be shipped to this point in quantities. A decision must be reached as to the type of boats to be used in carrying the grain from Fort Churchill. Plans to construct four 2,000,000-bushel elevators at Fort Churchill Harbor already have been made. Work on the first of this grain storage units will be started early in the spring. Until the elevators are completed, the new rail line into the Hudson Bay district will not be a factor in diverting grain to the Atlantic seaboard.

* * *

Buffalo grain and elevator interests have pledged their support and co-operation to committees representing Buffalo district No. 8 of the Association of Operative Millers which will arrange for the annual convention of the national organization which will be held in Buffalo at the Hotel Statler June 2-6. Announcement that the convention would be held in Buffalo was made at a meeting of the Buffalo district of the A. O. M. in the Hotel Buffalo, February 1, by M. F. Dillon of Kansas City, national secretary of the A. O. M.

* * *

William E. Maloney of the Buffalo Corn Exchange was elected secretary of the Niagara Frontier Industrial Traffic League at the annual meeting of the organization. The league has gone on record as opposing several proposed freight rate increases from Michigan points to Buffalo which would impose a heavy penalty upon industries in the Niagara Frontier area.

* * *

Operating executives of grain elevators along the Buffalo waterfront say that the wheat states farm bloc is behind the effort to show that the Federal Government is being defrauded of $200,000 annually through uncollected duty on Canadian grain passing through the port of Buffalo. The charge was made in the Senate by Senator William E. Borah of Idaho, who presented affidavits made by Edward J. Cunningham, former Buffalo elevator operator. It was alleged by Borah that Buffalo elevator operators are defrauding the Government by alleged failure to pay a Federal duty of 42 cents a bushel on their wheat overrun. Thomas C. O'Brien, manager of the Abel Forwarding Company, which operates local grain elevators, says there are four Federal inspectors constantly on duty in the elevator district. He says any grain that remains as an overrun is noted by these inspectors and is shipped out in bond the same as any other Canadian grain passing through the port. Harry W. Smith, deputy collector of customs, says that from time to time in the last three years similar charges have been made but no evidence of fraud on the part of the elevator operators ever has been uncovered.

* * *

James G. McKillen, prominent Buffalo grain merchant in the Chamber of Commerce building, has been elected commodore of the Buffalo Canoe Club at Point Abino on the Canadian lake shore. Another prominent member of the Buffalo grain trade honored by the club at its annual election was Melbourne C. Burns, who was elected a director of the organization.

* * *

Winter storage grain cargoes are being unloaded at a rapid clip in the Buffalo Harbor this winter. During the past month a large number of the

storage cargoes were unloaded and all of the boats will be ready when the 1930 season of navigation gets under way on the Great Lakes. Some interesting figures covering the 1929 season have been disclosed in an analysis of the 1929 grain receipts at terminal elevators. Total receipts for 1929 were 172,035,000 bushels as compared with 279,664,000 bushels in 1928; 257,734,000 bushels in 1927; 209,822,000 bushels in 1926; 269,996,000 bushels in 1925 and 283,844,000 bushels in 1924.

* * *

The agreement committee of local No. 109 of the Grain Shovelers Union was appointed at a special committee of the local of which Simon P. O'Brien is president. No change will be asked in the existing agreement when the committee meets with the committee of the Grain Handling Corporation.

* * *

The loss of more than 100,000,000 bushels of grain traffic in a single season has a considerable effect upon elevator prosperity. In the first place, this decline represents a loss to operators of Great Lakes grain carriers of $2,500,000 in freight revenue, estimating the charter rate at 2½ cents per bushel from the head of the lakes to Buffalo. There also is a reduction of approximately $1,000,000 in elevator charges for handling this vast amount of grain. Transportation lines also lose six to nine cents a bushel for hauling this grain from Buffalo to the Atlantic Coast. Taking seven cents as the average rate for moving 100,000,000 bushels of grain from Buffalo to the seaboard, this loss represents $7,000,000. It is therefore conservative to estimate that the decline in grain receipts last year have cost marine, elevator and railroads upwards of $10,000,000. Leaders in the Buffalo grain trade believe the 1930 movement over the Great Lakes waterways will show a marked improvement over the 1929 figures.

MILWAUKEE

C. O. SKINROOD - CORRESPONDENT

MILWAUKEE had rather a poor month in the grain trade for January. Declines in receipts appear to be the rule all along the line. Even the corn trade of which much had been expected has not turned out so well.

* * *

The Milwaukee Chamber of Commerce is getting into the thick of the fight concerning just what is to be the future of grain trading in this country as the result of the farm board plan to take over grain business and gradually squeeze out the present holders of this business. Secretary Harry A. Plumb was instructed to write a letter of protest to the United States Chamber of Commerce and attempt to get this powerful organization to take a hand in this matter in the way of preventing it. The letter was sent to William Harper Dean, secretary of the Agricultural Departmental Committee of the Chamber of Commerce of the United States at Washington.

The letter after stating that it was being sent by order of the Board of Directors of the Milwaukee Chamber of Commerce says in part:

"It is growing more and more apparent that it is the intent of the farm board to so execute the provisions of the agricultural act as to destroy the existing facilities for the marketing and distribution of the grain produced on American farms. Backed by the practically unlimited powers conferred by the act and vast amounts of public funds, the board is without question in a position to accomplish its purpose. If it is successful in bringing about this result, a great wrong will have been done not only to the grain trade but to all organized business of the United States because it will have been accomplished by unfair means.

"However indifferently the question of indorsing cooperative marketing at the expense of the present system may have been regarded by the great mass of business men composing the United States Chamber of Commerce at the time the referendum No. 52 was submitted and acted upon by the membership of the Chamber, the time has now come for them to consider whether this is not a step that may in time lead to their own destruction. The situation today is a menace to all organized business.

"Our organization believes that the United States Chamber of Commerce would do well at this time to give serious consideration to this emergency and take a firm stand in protest against the entry of government into business in unfair competition with its citizens. It believes that the attitude of the Chamber as expressed in is referendum No. 52 should now be strengthened and the full force of that great body's influence directed toward resisting the plain purpose of the farm board to carry out a policy of Socialism which not only threatens the grain trade but is a menace to all business."

* * *

Almost 6,000,000 bushels of grain in storage is tied up in Elevators at Milwaukee at the present time, an exceptionally large holding when compared with former years. The supply of wheat alone is more than 636,000 bushels, and corn is 933.000 bushels. Oats however, makes up the great bulk of the supply of grain held—more than 3,528,000 bushels. The barley supply is light with only 285,000 bushels, while rye is almost negligible with only 20,000 bushels. These grains together make a total of more than 5,404,000 bushels. In addition some 539,000 bushels of oats is afloat as boat storage so that the total oats holdings are in fact more than 4,000,000 bushels out of an aggregate of a little less than 6,000,000 bushels of grain.

* * *

A suit in the Milwaukee courts which attracted a great deal of attention among grain men was that brought by Oswald H. Oerding, of 484 Maple Street, an engineer who sought his broker's advice and then bought from time to time a total of 14,000 bushels of September oats on a margin.

Mr. Oerding had deposited $560.73 with his broker B. J. Aston as margin money. He was wiped out on May 31 when oats slumped and his margin fell short. Oerding was on the floor when the crash came but he failed to offer more margin money and he did not ask the broker to protect him against a loss. Mr. Oerding claims that Mr. Aston sold him out without notifying him and hence brought suit in Civil Court for the recovery of his margin money of more than $560. The case is said to be the first in Wisconsin in which a client has attempted to recover margin money.

The trial hinged largely on whether the order to buy was a written or oral contract. Attorneys for the grain buyer asserted that Mr. Oerding had only given oral contracts in asking Mr. Aston to buy oats from time to time.

However in fine print on the top of the receipts given for the margin money by Aston was quoted one of the rules of the Chamber of Commerce which specifies that "We reserve the right to close out all contracts when margins in our possession are exhausted, or nearly so without giving further notice."

Judge Runge held that no evidence of oral contract could be included so that the entire transaction hinged entirely on the written contract. Since this showed clearly that the buyer with insufficient margin could be sold out without notice, Mr. Oerding was unable to recover his margin money.

* * *

Max Hottelet, a well known grain broker, who retired several years ago, died at his home at 693 Farwell Avenue at the age of 73 years. For many years Mr. Hottelet was one of the prominent grain handlers in Milwaukee. He left his entire estate of more than $75,000 to his wife Anna.

* * *

Another recent death of great interest to the grain dealers was that of Mrs. William P. Bishop, widow of the late Walter Palmer Bishop who was for many years one of the leading grain dealers of Milwaukee. Mr. Bishop was a member of the E. P. Bacon Company. Mrs. Bishop grew up at Grafton, Wis., but had come to Milwaukee as early as 1860 and had lived here ever since. Mrs. Bishop left an estate of approximately $50,000 which will be divided between the four children—two boys and two girls.

* * *

A new variety of rye has been developed by the agronomists of the Wisconsin College of Agriculture under the direction of B. E. Leith who is one of the leading plant breeders of the institution. The new rye is said to be very high yielding and has uniform light colored kernels. It has been tried by a few co-operating growers in the important rye producing areas of Wisconsin and it is expected that the seed will be available largely for the spring sowing.

The new variety of rye was developed by applying the principles of in-breeding and rigid selection. Emphasis was placed on the plants which will retain their vigor when self-pollinated and which will produce large sized heads and very stiff straw to prevent lodging.

Because it was found that the rye millers of the state very largely prefer the light colored rye, the selection was also made with emphasis on the light colors, or white kernels.

* * *

Milwaukee grain dealers are closely watching the policy of the Farm Board in its program to support and hold up the prices of various grains. Some of the grain men, it must be admitted, do not think the policy will be successful as it violates the fundamental laws of economics.

Grain dealers here refer to every other attempt which has been made by corporations or governments to raise and support prices and how every one of these has resulted in a final fiasco, even though there was more or less success at first in promoting such a policy.

* * *

The great slump in rye has excited a lot of interest at the Milwaukee market with the price going down from $1.21 to 80 to 83 cents a bushel. The attempt to corner this market is blamed by Milwaukee grain men for the big decline in rye of 20 to 30 cents a bushel.

"Rye has been very scarce here for some time," said P. C. Kamm, one of the leading rye traders at Milwaukee. "Either the farmers are all sold out on rye, or they will not ship at the present prices. Rye would be in very active demand here at the present price levels."

One of the surprising things in the market, according to Milwaukee grain men is the fact that barley is being used liberally as a feed to replace corn. Grain men figure that at the present price levels, barley is about eight cents a bushel cheaper than corn.

* * *

Quite a number of the Milwaukee grain dealers went out to attend the meeting of the Iowa grain dealers at Des Moines. Among the Milwaukee grain men interested in this meeting were A. L. Johnstone, W. A. Hottensen, Frank Bell, J. V. Lauer, Linus J. Beck, A. E. Bush, Roy Campbell, L. J. Keefe and Harry J. Plumb, secretary of the Milwaukee Chamber. The Milwaukee grain men are especially interested in combatting what they term the wave of "socialism" which is sweeping into the grain trade with the advent of the Government actively in the grain business of the country.

* * *

Milwaukee grain dealers here are very much interested in W. G. Kellogg of Minneapolis who has been chosen by the farm board to handle the big job of selling the grain of the country for the government.

About 20 odd years ago Mr. Kellogg left the schools of Milwaukee and went over to the Chamber of Commerce to work as clerk in the grain firm of Fagg & Taylor to learn the grain business from the ground up.

After an apprenticeship with A. K. Taylor, for many years one of the grain leaders of Milwaukee, Mr. Kellogg went into partnership with Warren Stacks to found the firm of Stacks & Kellogg, operating a small elevator on Commerce Street. About 11 years ago he left Milwaukee to go to Minneapolis to head the Delmar Grain Company, a subsidiary of the Armour Grain Company. When the Armour grain business was sold out, he was placed in charge of the wheat department of the Archer-Daniels Midland Company, a position which he held up to the time he accepted the post with the United States Government.

His mother, Mrs. John L. Kellogg, lives in Milwaukee at 678 Summit Avenue. A brother, F. W. Kellogg, is president of the Kellogg Seed Company. Another brother is in the grain business. So to "Bill" Kellogg, aged 42, falls the monumental job of handling grain for Uncle Sam. Grain dealers say if any one can fill this position, "Bill" can.

PEORIA

IVAN L. REVEAL CORRESPONDENT

H. W. DEWEY of W. W. Dewey & Sons, Peoria, and vice-president of the Burlington Elevator Company, was re-elected president of the Chamber of Commerce Association of Peoria at the annual meeting of the directors held February 10. The Chamber of Commerce Association of Peoria is the building corporation for the Peoria Board of Trade. Other officers named were: P. B. Miles of P. B. & C. C. Miles, honorary president, in recognition of his long service as president; John R. Lofgren, secretary, and W. E. Stone, treasurer.

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J. L. Collyer, traffic manager of the Peoria Board of Trade, has been elected president of the Transportation Club of Peoria, and L. L. Gruss, secretary of the Mueller Grain Company, has been elected vice-president of the same club. Mr. Gruss is a past president of the Peoria Board of Trade and is now chairman of the Market Report Committee.

* * *

Standing committees to function for the coming year for the Peoria Board of Trade, appointed by B. E. Wrigley, president, include: Finance: N. R. Moore, chairman; H. H. Dewey, R. L. Coomber. Inspection: Grant M. Miles, chairman; N. R. Moore, J. H. Murray. Weights and Measures: H. H. Dewey, chairman; J. Leo White, E. W. Sands. Transportation: W. S. Miles, chairman; H. H. Dewey, assistant chairman; L. L. Gruss, William Stacy, G. H. McHugh, George W. Cole, J. J. Stevens, R. S. Turner, J. L. White, John Benson. Membership: L. H. Murray, chairman; H. H. Dewey, Gus A. Peterson. Regular Warehouses: G. A. Peterson, chairman; N. R. Moore, G. F. Luke. Rules and Regulations: A. M. Courtwright, chairman; Grant M. Miles, G. A. Peterson. Telegraph and Printing: W. F. Stoltzman, chairman; R. L. Coomber, A. M. Courtwright. Market Report: L. L. Gruss, chairman; W. F. Stoltzman, J. L. White. Rooms and Furniture: G. F. Luke, chairman; L. H. Murray, E. W. Sands. Call Board: R. L. Coomber, chairman; L. L. Gruss, W. F. Stoltzman. Discount Committee: George A. Breier, chairman; J. L. White, H. F. Cazey. Business Ethics: E. W. Sands, chair-

man; G. A. Peterson, H. H. Dewey. Entertainment: F. L. Barlow, chairman; W. F. Stoltzman, L. H. Murray, B. J. Yeck, F. N. Moore, S. C. Grier, L. L. Gruss, George A. Breier.

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The practice of storing grain for farmers has been discontinued by the Emden (Ill.) Farmers' Grain Company. This decision was reached at the annual meeting of the stockholders, held January 22, which was attended by 187 stockholders. Following the reading of the annual report, a 5 per cent dividend was declared. New directors elected were: Lawrence Alexander, John Sampen and Edwin Zumwalt.

LOUISVILLE

A. W. WILLIAMS - - CORRESPONDENT

BUSINESS over January and early February has been fairly good with the local grain and feed trade. Much bad weather, with heavy snows, and the lowest temperatures since 1917, have resulted in more active demand for manufactured and mill feeds, Cottonseed oil meals, poultry feeds, etc. Grain demand as a whole has been only fair. Mills are busier than they were over the fall and grinding more wheat, resulting in storage wheat moving from elevators to the mills more rapidly, and reducing storage charges for elevator owners.

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Corn continues quite wet and is needing considerable drying at this time, most stock coming in at five, six or sample, or with from 20 to 28 per cent moisture.

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Prospects are for better than normal demand for seed corn for spring use, as farmers' corn this winter ran so bad that there is but little seed corn available on Kentucky and Southern Indiana farms.

* * *

Hay demand has been fair, but movement of straight Timothy and Clover is quiet, and demand is largely for Mixed hay and Alfalfa, which are higher in price. Hay offerings have been heavy, considerable Mixed hay being offered of late. River shipments were down for a time account of heavy running ice in the river which stopped the boats for a few days. However, normal conditions again apply. Incidentally the new river rail terminals of the American Barge Line Company, for automatic machinery transfer of shipments from rail to river, or river to rail, at Louisville, are almost completed, and will be in operation in 30 days or so.

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Ed Scherer, Bingham Hewett Grain Company, remarks that demand is rather spotted, there being a scattered domestic demand, but not much export demand.

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The Kentucky Public Elevator Company reports fair activity in corn drying, relatively light daily handlings of in and out-bound grain; and that stocks held for owners have declined materially as a result of movement of wheat to owning millers. At the present time the company has on storage for customers about 90,000 bushels of corn; 260,000 of wheat and 10,000 of oats. Wheat holdings have been cut almost in half within the last month or so.

* * *

At the establishment of Henry Fruechtenicht it was reported that January business had been good, and that February volume as a whole had been quite satisfactory, there having been improved demand for all classes of feeds.

* * *

Movement of manufactured sheep feeds has been much better as a result of the spring lambing season, and education of farmers to properly feeding over this period, when grass is scarce. Poultry demand is also much better, although poultry and egg prices are low. Hog feeds have been relatively dull due to loss of poor-grade corn on farms. Mill feeds have been in larger production and are lower in price. Dairy feeds have been the one best bet. Horse feeds will pick up with spring and return of heavy work for farm horses and mules.

* * *

The rapid growth of Japan Clover, or Lespedeza in Kentucky is noted on every hand. Records in Shelby County, east of Louisville, show that the item was hardly known in 1920. In 1925, 350 bushels were planted, the following year 900 bushels; in 1927, a total of 1,900 bushels; in 1928, 3,500 bushels, and the total for 1929 has not been given out, but was probably on the same ratio. County agents have been working and showing the farmers the advantage of this crop, which thrives on Kentucky soil and in this climate.

* * *

The Kentucky thoroughbred horse breeding industry continues safe for another two years, a bill to block racing in Kentucky having been killed by the legislature in early February, by a large majority vote.

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Frank M. Flowers, of the house of Oscar Farmers' Sons, has been away from the office for a month or more account of severe illness. It was reported that his condition is rather serious at the present time.

* * *

The distilling business in Kentucky, which has accounted for a very fair quantity of grain in December and January, is nearly at an end, as the Federal permits for production of medicinal whisky in bond were for merely limited quantities, and with large capacity the plants have about finished their runs, two of the smaller capacity plants having a few weeks running time in front of them.

* * *

Incidentally, one of the small town or mountain legislators who apparently can not stand for someone else to be prosperous, has introduced a bill in the legislature which would prohibit manufacture, sale, consumption, etc., of any type of intoxicating liquors or alcohol, for beverage, medicinal, industrial, sacramental or other use. The bill probably won't get to first base.

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Some of the feed manufacturers in statements to their customers contend that they are using old grains in some of their feeds at this time, especially as regards corn.

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A dollar rye market is said merely to reflect the effort to corner the rye market, but with Europe offering around 60 cents a bushel for rye, and no great demand for it in this country, indications are that a much lower rye market will prevail.

DULUTH

S. J. SCHULTE - - - CORRESPONDENT

AS HAD been forecast, acclamations were the order at the annual elections of the Duluth Board of Trade. H. S. Newell was re-elected president and C. C. Blair, vice-president. H. J. Atwood, W. B. Joyce and W. J. McCabe were re-elected on the Board of Directors. For the Board of Arbitration, W. L. Brisley, M. M. McCabe and E. A. Vivian were re-elected and for the Board of Appeals, Thomas Gibson, F. E. Lindahl, T. F. McCarthy, W. I. Stanger, and H. A. Starkey came under the wire without opposition.

* * *

Members of the Board of Trade feel that their directors and officers will have their hands full in handling difficult marketing situations likely to crop up during the year including the effect of the Government's Farm Board policy. Some adverse criticism has been occasioned by the farm board's action in appointing a buyer on this market to compete with the regular traders, which it is concluded may deprive a proportion of executives and employes of the various commission houses of their livelihoods through what is classed as unfair practices. Officials of some of the commission houses on this market have, however, expressed satisfaction over the loyalty that has been shown by a good proportion of their shippers in continuing to route grain to them even though the farm board is in position to offer Government funds at 3½ per cent while regular grain dealers must finance their operations through 6 per cent bank loans.

* * *

Mike Sauter, manager of the Farmers Union Elevator Association, and his coadjutor, Andy Anderson, have been cutting some figures since they opened up for business in the Duluth market. They have been absorbing the top grades as a result of quotations in spot Nos. 1 and 2 Dark Northern having sunk below this fixed basis of $1.25 and $1.22 respectively to $1.12 and $1.10 for Nos. 1 and 2 Amber Durum. Somewhat of a block was thrown into the machinery by the announcement that the Farmers National Grain Corporation would refuse to purchase No. 2 Northern wheat on the tables that failed to show 12 per cent protein or better. That ruling promptly resulted in the Market Committee here cutting off this schedule of liberal protein premiums that had been going. Commission and elevator interests on this market claim that they are holding back their horses so to speak pending possible new rulings by the farmer's National grain corporation. It may be mentioned that a ray of sunshine was afforded in the statement of an official of the Government marketing body to the effect that its trades would be hedged on the regular exchanges and an expression of opinion by his holding of that grain without hedging would be gambling, pure and simple. Bullish news was also afforded traders through the new crop, Argentine crop surplus being estimated at less than half its 1928 record. Hopes are entertained on the score of the Canadian Wheat Pools maintaining their export figures more tightly in view of further loans being made to the banks from governmental quarters in order to bring about more effective price stabilization than would otherwise have been the case had bankers become panicky through the possibility of the market receding to below the loan basis of the banks in their marketing operations.

* * *

Elevator construction at the Head of the Lakes will be augmented through the building of a 2,000,000 bushel addition to the plant of the Occident Terminal Company on St. Louis bay in the Garfield Avenue district. The contract for the installing of 48 reinforced concrete storage tanks has been awarded to the Barnett & Record Company. The contract calls for a cost of approximately $500,000. Work upon the foundation will be started at once and is scheduled to be completed by September 1 next, in time for the handling of the new season's crop, according to W. L. Brisley, manager of the company.

* * *

The Occident Terminal Elevator is a subsidiary of the Russell-Miller Milling Company with mills at Minneapolis and Buffalo. The extension of the Occident Terminal was made necessary through the progressive expansion in its operations. With the completion of the contract for the erection of a 3,000,000-bushel addition to the Great Northern Railroad's Elevator "S" at Superior, the storage capacity of the elevator system at Duluth and Superior will be brought up to approximately 50,000,000 bushels. The investment of such large amounts of new capital in elevator plants on this market is regarded as indicating the confidence of grain men regarding the future of the elevator and grain trade on this market. The inference is at the same time being drawn that substantial expansion will be recorded in agricultural development over this territory despite claims that have been made in some quarters that the limit has been reached in foods production over the great American Northwest.

* * *

Officials of the Cargill Grain Company here are being warmly congratulated upon the outcome of its action against the Cleveland & Cliffs Steamship Company as owner of the steamer Pioneer being held liable for the spoilage of 100,000 bushels of No. 3 Yellow corn held for storage on the steamer at Buffalo. The case came up for trial in the last district court here and resulted in a verdict of 25,677 for the plaintiff. The grain firm's original claim against the steamship company was for 27,150 on the ground that its owners were responsible for the spoiling of the corn. It was shown by witnesses that the grain was in good condition when stored on the boat but that when unloaded a proportion of it was found to have been damaged by dampness and required treating to make it salable. The outcome of the case is regarded as important in setting a precedent. Grain men and elevator interests claim that they have lost heavily at times in the past through laxness in checking up losses in storing on steamers that should have been made good to them. An appeal has been taken by the boat company.

* * *

James Wood, accountant of the Itasca Elevator Company is taking a vacation at Miami, Fla., under the orders of his physician. "Jimmy's" host of friends on this market joined in wishing him a speedy recovery and return here to reassume his duties.

* * *

James S. Graves, manager of the Capitol Elevator Company, is spending his usual winter vacation at New Orleans, taking in the Mardi-Gras and watching the running of the "ponies."

* * *

Joe McCarthy, a prominent operator in the pit is also spending a winter vacation at Florida resorts.

* * *

A recent announcement that the Farmers Union Terminal Association had reserved 3,000,000 bushels storage space at the Consolidated Elevator system here has turned out to have been erroneous. Officials of the elevator company asserted that an inquiry had come from the Farmers Union Terminal Elevator Company for space to store grain bought but that no definite tonnage was contracted for. We advised Mr. Sauter that we had about 3,000,000 bushels space remaining in our houses and that we would take in their grain as long as we had room for it, said G. H. Spencer, secretary of the Consolidated system.

* * *

"It looks as if grain men must prepare for a quiet period until they can obtain some idea as to the effect of the buying policy announced by the farm board," said R. M. White of the White Grain Company. "We are doing our best to function in the interval. As a general proposition it seems to me that the government board is throwing a sledge hammer into the works without formulating anything tangible to take its place. They have laid stress upon the necessity of co-operatives hedging their spot

buying but I may ask who is likely to take the hedges in view of the uncertainty that has been brought about which is likely to be progressive. It may be assumed though that the old trained crowd in the grain trade will carry on in the end. The records of the Canadian pools may be cited. They show from statistics drawn together that it has cost the pools more to carry on than the regular marketing organizations and furthermore, some of their pools have been unable so far to make full returns to growers upon the 1928 crop of wheat marketed through them.

KANSAS CITY

KENNETH FORCE CORRESPONDENT

CHARGING that the Federal Farm Board as it now is functioning is "using government and public funds to interfere with prices and legitimate business," the Board of Directors of the Kansas City Board of Trade January 21 adopted resolutions calling the board's activities to the attention of the United States Chamber of Commerce and urging that "effective measures be taken to protest vigorously against the encroachments on business by the board and to take a strong position against further government interference with established business." Incidentally, the Chamber of Commerce of the United States failed to do anything about the Board of Trade's appeal.

Frank A. Theis, first vice-president of the Board of Trade, said January 22 that he believed the resolutions adopted by the Kansas City exchange are the most forceful adopted by any similar body in the country. "Buffalo and Minneapolis," he said, "have adopted resolutions touching on the same matters, but have not covered the ground so fully. In my opinion boards of trade throughout the country will follow our lead, although there has been no understanding to that effect between various exchanges."

* * *

Arthur M. Hyde, secretary of agriculture, and Mrs. Hyde spent February 7 in Kansas City from where they went to their home in Trenton.

* * *

A $1,000,000 regional grain marketing corporation was launched at Hutchinson February 8 by the committee of 27 appointed for the purpose at Wichita, January 28. The Kansas-Colorado Regional Grain Association will apply at once for a charter, with E. E. Frizell, Larned, member of the state board of agriculture, as president; Dr. O. E. Webb, Milliken, Colo., vice-president, and John Vesecky, Timpken, Kan., secretary and treasurer. These officers will serve temporarily, being subject to change at the first regular stockholders' meeting scheduled for June 1. This will permit a permanent organization before the 1930 wheat crop begins to move in the Southwest.

The new association is patterned after other regional marketing groups previously formed. William J. Kuhrt, general manager of the Northwest Co-operative Association and representative of the Federal Farm Board, aided the local group to frame its by-laws and answer innumerable questions of the hundred elevator men who attended.

No location of the company's headquarters was fixed though Hutchinson is believed to have a good chance of gaining this because it is located more centrally to the Colorado-Kansas wheat belt.

Under the bylaws each member will be allowed to subscribe for one share for each 7,500 bushels of wheat shipped annually. Membership is expected to be limited entirely to grain men and elevators formally connected with the Kansas wheat pool and independent operators.

Three other major organizations, the Farmers' Co-operative Commission Company of Hutchinson, the Equity Union Grain Company of Kansas City and the Farmers Union Jobbing Association of Kansas City, announced that they would not join in the regional group, but would affiliate directly with the national marketing association. The position of these outside groups is weakened, it is said, by the fact that many members of the Farmers Grange and Farmers Union are active in the regional corporation.

* * *

Mrs. Nellie Wheeler Godfrey, 69 years old, the widow of Fred B. Godfrey, manager of the coarse grain department of the Simonds-Shields-Lonsdale Grain Company at the time of his death July 30, 1925, died February 9 here.

* * *

Transactions in wheat futures on the Kansas City Board of Trade in January totaled 49,578,000 bushels, the second largest January on record, and compares with 42,334,000 bushels in the same month of last year, and 12,953,000 two years ago. Transactions in corn futures totaled 12,394,000 bushels, compared with 27,243,000 bushels last year and 19,721,000 bushels two years ago. No oats were traded in.

* * *

E. C. Hoebel has sold his Kansas City Board of Trade membership to E. L. Rickel of the Rickel Grain Company, Salina, Kan., and will retire from the grain business.

* * *

Fire, believed to have been caused by spontaneous combustion in the rolled oats mill of the Rudy-Patrick Seed Company at Eighth and Santa Fe Streets here, resulted in a loss of approximately $15,000. The fire spread slowly to the other floors. R. A. Edwards, vice-president, said the grain would be a total loss due to water damage. It took nearly eight hours to extinguish the smouldering grain.

* * *

Loss estimated at $27,000 resulted from a fire at the Quaker Oats company elevator at Sparks, Kan., February 4. The fire is believed to have started from a back fire in a gasoline engine.

* * *

The Gano Elevator at Garden City, Kansas, one of the largest wheat depositories in southwestern Kansas, was practically destroyed by fire January 11. Forty thousand bushels of wheat and corn were destroyed. The building was valued at $40,000.

* * *

The Corn Products refinery, which, when built in North Kansas City in 1920-22 was recognized as the largest initial investment ever made by any industry here, completed its largest and most successful operating year during 1929. Indications are the plant will run to capacity the year 'round. Largely a machine process plant, nevertheless about 600 persons are employed. Since 1922 there have been various enlargements. As a result of one of these, the North Kansas City refinery is the only plant making the new type of re-refined anhydrous confectioners' corn sugar. The plant is shipping daily from Kansas City about 40,000 cans of Mazola oil, 120,000 cans of Karo corn syrup, 250,000 pounds of cattle feeds, 60,000 pounds of gluten meals, 100,000 pounds of solid corn sugars, 150,000 pounds of refined corn sugars and 200,000 pounds of confectioners' syrups. The plant is grinding 18,000 bushels of corn a day. Under its boilers 225 tons of coal are consumed daily.

* * *

The personnel of the various Board of Trade committees which will serve during the administration of R. A. Jeanneret, president, are as follows. The Appeals Committee: J. J. Kraettli, chairman; W. G. Hoover, George H. Davis, F. C. Vincent, L. A. Fuller. Transportation: W. B. Lathrop, chairman; C. W. Lonsdale, vice chairman; G. A. Johnson, N. E. Carpenter, H. A. Merrill, J. Juhl, W. C. Goffe, L. W. Sanford, E. M. Jolley. Legislation: C. W. Lonsdale, chairman; F. G. Crowell, vice chairman; C. Gamage, J. S. Hart, W. C. Goffe. Cash Market Reports: F. T. Kane, chairman; J. F. Leahy, E. G. Wallingford. Wheat and Cash Sales Adjustment: C. E. Watkins, chairman; E. F. Emmons, R. O. McKenna, E. M. Jolley, R. E. Swenson. Coarse Grain Sales Adjustment: A. L. Ernest, chairman; H. F. Hall, B. F. Hargis, L. S. Mohr, J. E. Rahm. W. R. Scott was reappointed secretary and transportation commissioner; E. D. Bigelow, assistant to the president; C. W. Pershing, assistant secretary; H. F. Hall, treasurer; J. E. Rahm, assistant treasurer; James Russell, chief sampler.

* * *

In the first six months of the crop year ending December 31 the Kansas state grain inspection department inspected 30,425 cars of wheat, which averaged 12.24 per cent protein. In the corresponding period in 1928 the average protein was 11.93 per cent on 35,458 cars inspected.

* * *

The Missouri Board of Agriculture's silver trophy awarded for the grand champion 10 ears and peck of corn in the twenty-seventh annual state corn show and the first annual certificated seed show, which opened January 21 at Columbia was won by J. W. Kuhler of Dalton with an entry of Yellow corn. There were 91 entries. The bushel award was won by Kenneth Bressler of Grant City with an entry of Boone County White corn. C. A. Helm of the field crops department of the Missouri College of Agriculture, forecast the possibility that good seed corn will be hard to find at the Certified Seed Show. The show ended January 22. Seed is apparently poor this year.

* * *

C. A. Vincent, 88 years old, president of the Vincent Grain Company of Odell, Ill., and father of Fred C. Vincent here, who is on a Mediterranean tour, died January 26 at Odell. Fred Vincent is vice-president of the Simonds-Shields-Lonsdale Grain Company.

* * *

A good business year is ahead for Kansas City was the prediction of industrial leaders who discussed future trade prospects at the annual dinner meeting of the Kansas City Grain Club February 3 at the Kansas City Club. The grain men devoted their meeting to an analysis of general business conditions. Heads of 14 industries whose securities are listed on the Kansas City Board of Trade were the principal speakers. Grain men were commended by the visitors for the inauguration of organized trading in local stocks. R. A. Jeanneret, president of the Kansas City Board of Trade was elected president of the Grain Club, succeeding J. J. Kraettli; Edwin C. Meservey, Jr., vice-president, and E. F. Emmons, secretary-treasurer. About 200 grain men attended.

* * *

Directors of the Grain Clearing Company, January 31, elected the following officers for the ensuing year: C. W. Lonsdale, president; K. G. Irons, first vice-president; W. J. Mensendieck, second vice-president; H. F. Spencer, secretary-treasurer. Officers are the same as last year with the exception of Mr. Irons. G. G. Lee was reappointed manager.

* * *

The Missouri Pacific Railroad has applied to the city for permission to build a grain elevator at 6700 Martin Avenue in East Kansas City, Mo. The building will be of concrete and steel and will be erected at a cost of approximately $50,000. It will be completed by July 1.

* * *

Members of the Kansas City Board of Trade voted to remain closed Wednesday, February 12, Lincoln's birthday, following the action of other grain exchanges over the country.

* * *

Tom L. Bair of Minneola, Clark County, Kan., won the state wheat championship at Manhattan, Kansas, February 7, winning the $300 cash prize and silver trophy offered each year by the Kansas City Chamber of Commerce for the best wheat producer in Kansas. Second place went to Ruben Anderson, western Sherman County, and third prize to Tom Strouth, Ford County. The three winners were announced as the chief event of the agronomy program of the annual farm and home week, sponsored by the Kansas State Agricultural College.

GRAIN NEWS FROM BOSTON

By L. C. BREED

H. F. Schell, of John W. Eshelman & Son, Lancaster, Pa., millers, has applied for associate membership in the Boston Grain & Flour Exchange.

* * *

Merrill & Mayo, Inc., Boston and Waterville, Maine, has been formed to manufacture and deal in grain, hay, flour and feed. The capital stock is 500 shares of no par value. Monroe J. Lorimer is president and treasurer.

* * *

The Rollstone Grain Corporation, Fitchburg, Mass., has been formed to take over the business of Clarence R. Bacheller. The capital is $95,000, 9,500 shares. Clarence R. Bacheller is president and treasurer.

* * *

Henry E. Taylor of W. B. Alger Company, grain and feed, has gone to Florida on a vacation.

* * *

C. M. Cox of the Cox Grain Corporation has a painting entitled "Mountain" on exhibition in the art gallery of the Boston City Club along with paintings by other members of the Business Men's Art Club of Boston.

* * *

Jacob I. Andrews, grain and flour broker, Boston, died recently at the Beth Israel Hospital following an operation. He had resided in Roxbury for several years and was 72 years of age. He was the founder and owner of the New England Cereal Company with offices in Boston and was a member of the Boston Grain & Flour Exchange.

* * *

The annual meeting and election of officers of the Boston Grain & Flour Exchange, Inc., were held Tuesday, February 4, in the building of the Exchange. The election of officers to serve during the year, resulted as follows: For president, Henry P. Smith; first vice-president, Paul T. Rothwell; second vice-president, Edward H. Day. For directors, Robert C. Bacon, Henry W. Chandler, Herbert L. Hammond and Harold E. Mellon. Albert K. Tapper who retires from the presidency, has served for four years.

* * *

The New England Feed Dealers Association last month held its annual meeting at Boston. At the election of officers, the previous occupants were unanimously re-elected to serve during the present year. The president is D. W. Webber of Lewiston, Maine; vice-president, Alex P. Dewar of Boston; secretary and treasurer, Peter M. Miller of Boston. Boston dealers state that, on the whole, the year 1930 proved to be quite satisfactory as regards the sale of seed and there was a good clean-up of stock. Except in case of beans, there was no shortage as to supplies of seed. A feature of last year's business was the demand for lawn grass

seed which was very large. This was due to the dry weather last summer that did considerable injury to lawns and golf courses and also to the increase in New England of golf courses and the spread of interest in having lawns around residences. For the coming season there is an excellent demand for all kinds of seed.

* * *

It is found that New England farmers increased the value, through increased acreage, of their farm products last year upwards of $54,500,000 over the previous year, not including dairy, poultry and livestock. In this favorable showing of the business, the advance in the price of some products helped to bring it about.

* * *

Boston wholesale dealers report that the volume of business for the month of December, in grain, reached that of the same month last year, but the sale of wheat feeds was not as large owing in part to the weather being milder with the exception of a few days during the middle of the month. They find that cheap feed barley and low grade corn, have of late been selling in place of wheat feed. Stocks in the hands of retailers are low, and as a result there will be a fair demand during the month. There is no Canadian mill feed being offered for prompt shipment. For chicken wheat there is a moderate but steady demand. Only Durum wheat is selling.

* * *

The receipts of hay at Boston during the month of January were 168 cars. Straw, 2 cars. The moderate receipts of hay this winter has caused the market to rule steady and for the top grades prices are firm.

* * *

Stocks of grain in regular elevators at Boston, as of February 1 were as follows: Wheat, 1,814,560 bushels; oats, 9,033 bushels; rye, 1,818 bushels.

* * *

The receipts of grain at Boston during the month of January, as tabulated by the Boston Grain & Flour Exchange, were as follows: Corn, 1,175 bushels; oats, 50,050 bushels; rye, 2,300 bushels; barley, 7,500 bushels; malt, 2,505 bushels; mill feed, 188 cars; cornmeal, 942 barrels; oat meal, 21,136 cases and 766 sacks.

* * *

During January the following export shipments were made: Wheat to Hamburg, Germany, 56,000 bushels; to Avonmouth, England, 24,000 bushels; to Greece, 95,502 bushels; to Liverpool, 9,984 bushels. Of hay, 50 tons were shipped to London, and 100 tons to Liverpool.

* * *

Among the visitors to the Exchange during the month of January, outside of New England, were the following: M. Wertheimer, Ligonier, Ind.; G. C. Schall, Lancaster, Pa.; J. Lahiff, Chicago, Ill.; J. A. White, Chicago, Ill.; G. R. Young, San Francisco, Calif.; A. K. Quinn, Battle Creek, Mich.; Leon Smith, New York City; C. K. Luke, New York City; W. I. Squire, Buffalo, N. Y.; S. E. Kelley, Madrid, N. Y.; E. G. Brush, Moira, N. Y.

RECEIPTS AND SHIPMENTS FOR JANUARY

BALTIMORE—Reported by James B. Hessong, secretary of the Chamber of Commerce:

	Receipts		Shipments	
	1930	1929	1930	1929
Flour, bbls...	81,329	83,836	14,727	11,217
Wheat, bus...	136,050	1,823,349	139,838	2,481,379
Corn, bus....	81,973	1,208,431	.....	1,233,097
Oats, bus....	14,392	99,241	.....	29,919
Rye, bus.....	1,096	4,213	.....	.....
Barley, bus..	1,483	696,400	.....	654,004
Malt, bus....	26,545	22,367	.....	.....
Hay, tons....	112	114	.....	.....
Straw, tons..	.....	13	.....	.....
Mill Feed, tons	824	1,298	.....	.....

CHICAGO—Reported by F. H. Clutton, secretary of the Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	464,000	934,000	1,351,000	1,120,000
Corn, bus....	9,136,000	12,542,000	3,729,000	4,736,000
Oats, bus....	1,473,000	2,701,000	1,452,000	2,040,000
Barley, bus..	447,000	653,000	215,000	360,000
Rye, bus.....	414,000	235,000	13,000	36,000
Timothy Seed, lbs.	600,000	820,000	1,211,000	395,000
Clover Seed, lbs.	758,000	790,000	930,000	378,000
Other Grass Seed, lbs...	1,676,000	1,171,000	1,093,000	851,000
Flax Seed, bus.	52,000	54,000	.....	.....
Hay, tons....	7,298	8,040	1,754	805
Flour, bbls...	912,000	1,104,000	503,000	563,000

CINCINNATI—Reported by J. A. Hallam, chief inspector of the Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus (est.)	204,800	141,400	268,800	208,600
Corn, bus....	579,000	632,800	399,000	495,600
Oats, bus....	188,000	156,000	140,000	210,000
Barley, bus..	14,400	25,600	.....	3,200
Rye, bus....	8,400	.....	4,200	.....
Buckwheat, bus.	1,400	.....	.....	.....
Grain Sorghum, bus.	2,800	4,200	.....	.....
Hay, tons....	9,130	7,656	.....	.....
Feed, tons...	270	840	.....	.....

DENVER—Reported by H. G. Mundhenk, secretary of the Grain Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, cars.	184	283	34	32
Corn, cars...	818	1,284	192	236
Oats, cars...	19	32	8	9
Barley, cars.	29	43	6	14
Mixed Grains, cars	2	.....	.....	.....
Hay, cars....	48	39	.....	.....
Beans, cars..	231	120	56	45
Kaffir Corn and Milo, cars	1	5	.....	.....

DULUTH—Reported by Charles F. MacDonald, secretary of the Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	1,775,599	1,908,812	556,254	813,059
Corn, bus....	298,677	491,604	.....	2,633
Oats, bus....	339,759	121,273	1,794	.....
Barley, bus..	159,207	109,359	14,734	42,477
Rye, bus.....	321,600	219,236	68,781	16,501
Flaxseed, bus.	15,143	18,444	162,395	76,263
Flour, bbls...	.....	.....	65,090	76,860

FORT WILLIAM, ONT.—Reported by E. A. Ursell, statistician of the Board of Grain Commissioners for Canada:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	2,789,437	10,970,743	26,103	1,128,111
Corn, bus....	8,668	6,128	3,095	9,410
Oats, bus....	330,759	878,923	383,632	725,163
Barley, bus..	430,816	590,779	27,588	508,615
Rye, bus.....	153,097	251,739	.....	2,400
Mixed Grain, 50 lbs. per bu.	20,884	44,384	11,100	7,475
Flaxseed, bus.	24,103	.....	12,258	32,124

GALVESTON—Reported by George E. Edwardson, chief inspector of the Cotton Exchange and Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	.....	.....	1,549,300	1,216,586
Corn, bus....	.....	.....	.....	1,738,842
Barley, bus..	.....	.....	.....	339,415
Milo, bus.....	.....	.....	.....	38,571
Kaffir Corn, bus.	.....	.....	.....	710,271

HOUSTON—Reported by W. J. Peterson, chief grain inspector and weighmaster of the Merchants' Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	.....	.....	804,000	.....
Corn, bus....	.....	.....	.....	145,714
Barley, bus..	.....	.....	.....	70,000
Milo, bus....	.....	.....	.....	8,571
Kaffir, bus...	.....	.....	.....	112,000

INDIANAPOLIS—Reported by William H. Howard, secretary of the Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	145,000	132,000	591,000	229,000
Corn, bus....	2,458,500	2,661,000	1,725,000	2,050,500
Oats, bus....	484,000	684,000	672,000	504,000
Barley, bus..	1,500	.....	3,000	.....
Rye, bus.....	4,500	.....	7,500	.....

KANSAS CITY—Reported by W. R. Scott, secretary of the Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	4,663,440	4,637,490	3,100,690	4,218,500
Corn, bus....	3,938,000	5,698,500	1,914,000	2,751,000
Oats, bus....	420,000	420,000	290,000	198,000
Barley, bus..	115,200	123,200	92,800	219,200
Rye, bus.....	22,500	7,500	9,000	9,000
Bran and Shorts, tons	7,800	10,420	17,920	18,800
Cane Seed, bus.	46,000	54,050	.....	27,600
Kaffir Milo, bus.	295,900	855,800	313,000	481,000
Hay, tons....	21,384	24,624	9,840	11,172
Flour, bbls...	52,325	79,625	663,200	714,600

LOS ANGELES—Reported by M. D. Thirbaud, secretary of the Grain Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	254	266	.....	.....
Corn, bus....	267	315	.....	.....
Oats, bus....	27	28	.....	.....
Barley, bus..	141	182	.....	.....
Milo	10	41	.....	.....
Cotton Seed..	138	215	.....	.....
Alfalfa	24	10	.....	.....
Kaffir Corn...	60	81	.....	.....
Bran	156	165	.....	.....
Flour	333	339	.....	.....

MILWAUKEE—Reported by H. A. Plumb, secretary, Chamber of Commerce.

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	78,440	127,280	28,750	136,700
Corn, bus....	1,178,080	2,575,200	997,448	1,463,976
Oats, bus....	165,000	254,220	371,700	352,800
Barley, bus..	662,205	970,080	505,680	423,090
Rye, bus....	21,075	77,275	23,360	113,880
Timothy Seed, lbs.	30,000	219,315	183,778	17,545
Clover Seed, lbs.	121,255	208,465	523,215	1,220,174
Flaxseed, bus.	12,870	38,620	2,860	475
Hay, tons....	144	336	12	.....
Flour, bbls...	95,200	107,450	.....	.....
Feed, tons...	.....	300	12,110	10,145
Malt, bus....	.....	1,900	218,170	98,800
Hogs, number	131,243	151,615	4,623	5,101
Cattle, number	18,100	14,225	770	455
Sheep, number	4,397	4,803	80	475
Calves, number	50,145	40,696	4	18

MINNEAPOLIS—Reported by G. W. Maschke, statistician of the Chamber of Commerce:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	4,225,230	6,616,360	2,506,130	3,599,340
Corn, bus....	1,813,850	1,805,660	1,002,060	889,510
Oats, bus....	964,650	1,257,640	1,073,660	1,477,440
Barley, bus..	869,920	1,850,280	1,065,000	1,190,050
Rye, bus....	324,760	421,990	187,370	245,510
Flaxseed, bus.	180,440	373,440	55,660	230,440
Hay, tons....	666	1,365	77	260
Flour, bbls...	18,176	15,027	960,548	973,412

MONTREAL—Reported by J. Stanley Cook, secretary of the Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	693,268	665,010	70,515	76,594
Corn, bus....	33,925	30,245	4,777	8,111
Oats, bus....	204,093	293,875	30,271	45,544
Barley, bus..	56,800	15,039	8,575	10,175
Rye, bus.....	.....	.....	.....	1,320
Flaxseed, bus.	.....	46,111	.....	.....
Hay, bales...	40,884	54,089	.....	.....
Flour, bbls...	86,285	97,575	65,215	113,855

NEW ORLEANS—Reported by S. P. Fears, chief grain inspector and weighmaster of the Board of Trade, Ltd.:

	Receipts		Shipments	
	1930 Cars	1929 Cars	1930 Bus.	1929 Bus.
Wheat	104	52	1,679,977	160,920
Corn	64	1,368	24,484	3,907,141
Oats	35	36	82,082	44,605
Barley	1	75	3,336	120,252
Rye	5	1	.....	.....
Grain Sorghums ...	2	26	.....	.....

RIVER BARGE RECEIPTS

	1930	1929
Wheat, bus.	.....	90,068
Corn, bus.	.....	1,023,761
Barley, bus.	.....	34,743

NEW YORK CITY—Reported by H. Heinzer, statistician of the Produce Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	1,814,400	.....	3,516,000	.....
Corn, bus....	78,000	.....	.....	.....
Oats, bus....	98,000	.....	29,000	.....
Barley, bus..	27,200	.....	72,000	.....
Rye, bus....	6,000	.....	.....	.....
Clover Seed, bags	1,800	.....	7,363	.....
Hay, tons....	2,561	.....	.....	.....
Flour, bbls...	1,297,175	.....	413,000	.....

OMAHA—Reported by F. P. Manchester, secretary of the Grain Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	1,073,600	2,185,600	2,412,200	2,549,400
Corn, bus....	3,980,200	2,413,600	2,667,000	1,457,400
Oats, bus....	442,000	556,000	942,000	600,000
Barley, bus..	65,600	48,000	123,200	36,800
Rye, bus....	43,400	78,400	67,200	91,000

PEORIA—Reported by John R. Lofgren, secretary of the Board of Trade:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	217,000	94,800	204,000	112,800
Corn, bus....	2,760,350	2,453,250	1,530,400	1,447,550
Oats, bus....	418,450	576,000	507,600	482,400
Barley, bus..	355,600	311,000	110,600	65,800
Rye, bus.....	.....	1,200	1,200	2,400
Mill Feed, tons	30,860	311,400	53,473	50,800
Hay, tons....	70	700	50	40
Flour, bbls...	185,570	309,300	170,400	276,100

PHILADELPHIA—Reported by A. B. Clemmer, secretary of the Commercial Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	6,287	2,623,940	11,200	2,493,398
Corn, bus....	37,601	835,168	.....	832,795
Oats, bus....	46,300	111,137	.....	15,000
Barley, bus..	2,438	310,796	3,000	164,155
Rye, bus.....	3,233	1,097	.....	.....
Flour, bbls...	187,387	135,069	7,125	6,514

PORTLAND, ORE.—Reported by F. W. Clark, manager of the Merchants Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	2,135,000	2,092,350	1,881,438	651,599
Corn, bus....	151,050	236,500	.....	607
Oats, bus....	49,400	72,200	6,375	17,284
Barley, bus..	24,000	28,800	.....	3,245
Rye, bus.....	2,900	4,350	.....	.....

SAN FRANCISCO—Reported by James J. Sullivan, chief inspector of the Chamber of Commerce:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, tons..	4,443	5,202	.....	.....
Corn, tons...	1,881	3,050	.....	.....
Oats, tons...	442	670	.....	.....
Barley, tons..	20,943	26,996	.....	.....
Bran, tons...	671	431	.....	.....
Hay, tons....	2,745	2,244	.....	.....
Beans, sacks.	42,476	54,924	.....	.....
Foreign beans, sacks	9,545	14,521	.....	.....

ST. LOUIS—Reported by C. B. Rader, secretary of the Merchants Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus...	2,346,400	3,304,000	1,516,800	2,392,600
Corn, bus....	4,977,000	4,977,000	1,027,000	2,820,800
Oats, bus....	1,393,200	2,292,600	1,433,800	1,786,000
Barley, bus..	52,800	126,400	35,200	92,000
Rye, bus.....	6,500	6,500	9,100	1,300
Kaffir Corn, bus.	56,400	144,000	36,000	78,000
Hay, tons ...	7,764	5,568	3,744	2,496
Flour, bbls...	569,860	579,824	437,770	461,620

SUPERIOR—Reported by J. W. Conner, secretary Wisconsin Grain and Warehouse Commission:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus...	978,185	1,116,027	490,085	214,962
Corn, bus....	4,557	105,205	.....	.....
Oats, bus....	18,600	26,596	86,806	32,201
Rye, bus....	70,436	151,682	16,000	15,338
Barley, bus...	56,963	112,084	25,000	8,333
Flax, bus....	83,846	6,500	63	43,786
Bonded Wheat, bus.	2,207	1,477	.....	.....
Bonded Oats, bus.	2,350	.....	.....	1,794

TOLEDO—Reported by W. A. Boardman, secretary of the Produce Exchange:

	Receipts		Shipments	
	1930	1929	1930	1929
Wheat, bus..	910,000	606,000	172,000	149,000
Corn, bus....	141,000	198,000	8,000	44,000
Oats, bus....	390,000	416,000	317,000	119,000
Barley, bus..	2,000	19,000	2,000	7,000
Rye, bus.....	5,000	14,000	8,000	3,000

ELECTRICAL apparatus for moisture tests will be used in the new 60,000-bushel elevator of the Rhodesian Milling Company at Bulwayo, South Africa. Complete moisture trials on wheat require 10 or 15 minutes with this device.

HAY, STRAW AND FEED

"RICH ROUGHAGE"

Alfalfa hay stands well at the head of the list of roughages in the matter of nutritive value, and ranks just under wheat bran in percentage of digestible crude protein. Ontario Agriculture College authorities at Guelph, Ont., warn feeders, however, that "it is a rich roughage and should be fed with care to prevent waste or danger from over-feeding."

Canadian Alfalfa, when cut at six or eight inches in height, is reported to contain as high as 25 per cent nitrogenous matter—that is a quarter of its dry matter is crude protein. The percentage naturally decreases as the plants mature, but in the early-blossoming stage, 15.5 per cent of crude protein and 11.3 per cent of digestible crude protein are given as average proportions.

QUESTIONS PROSO'S VALUE

What about proso millet, which is being advertised as a wonderful crop that produces enormous yields of grain of high feeding value? In answering the many inquiries concerning this crop, that come to the Ohio Agricultural Experiment Station, L. E. Thatcher, associate agronomist at the Station, says proso as a hay crop is inferior to the foxtail millets commonly grown in Ohio for hay. The yields of grain are 10 to 25 bushels per acre, although larger yields are reported under extremely favorable conditions.

The seeds of proso are larger than those of common millet and the plants are coarser, attaining a height of about 30 inches. In feeding value proso is somewhat inferior to the common grain crops pound for pound. Proso contains a smaller percentage of digestible protein than wheat, oats or barley and slightly more than No. 2 corn or buckwheat. In total digestible carbohydrates, the fattening part of the feed, corn is first, followed in order by wheat, barley, proso, oats and buckwheat.

LARGE SIDELINE TRADE IN SALE OF FERTILIZER BY ELEVATORS

American farmers now are using around 8,000,000 tons of commercial fertilizer per year, and an increasing number of country elevators and feed stores are taking advantage of the growing popularity of this product. Elevator managers now recognize that the reliable brand of commercial fertilizer builds profit for the consumer and retailer alike.

Past experience of those firms who retail fertilizer, however, indicates that success in handling this product comes not from simply adding it to the line handled. Its value, from the farmer's standpoint must be constantly emphasized in the local territory. The dealer must be prepared to inform the trade how to use it and why. Its value on corn land, as well as wheat fields and acreage devoted to other crops is not information that is difficult to obtain, because many state experiment stations have data on it that is to be had for the asking.

The effect of nitrogenous fertilizer in increasing both the yield and the protein content of wheat has been demonstrated definitely. Recently the relation of protein content to quality of wheat has received much attention. There is an increasing tendency to consider the protein content of wheat in determining its value. This is particularly true in seasons when the protein content of the whole crop is lower than usual. As a result the wheats of higher protein contents command higher prices. It has been shown that the time of application determines to a large extent whether the fertilizer will increase the yield alone or also increase the protein content of the grains. Later applications made following the heading period have resulted in marked increases in the protein content of wheat. More studies are needed to determine the most economical amounts to use and the most profitable time of application. These conditions must be determined for the local soil and climatic conditions. With cheaper supplies of nitrogen a much greater use can be made of these materials to increase the quality as well as the yield of our wheat crop.

The foregoing information as to the effect of fertilizer on wheat is credited to H. R. Kraybill, Indiana State Chemist and Seed Commissioner. He also reports fertilizer trials with corn in Armour's *Farmers' Almanac* for 1930. "Numerous fertilizer experiments with corn," he says, "have demonstrated the effect in improving the quality of the crop. Generally increased yields are accompanied by higher quality. A number of records show the relation between yield and quality of corn harvested on experimental plots by the Purdue University Agricultural Experiment Station. The results are averages of yields for five years on eleven fertilizer plots located at five different parts of the state. Increased yields due to fertilizer applications are accompanied in every case by a marked increase in percentage of sound corn."

CORN PLUS OIL MIDDS

Although palmo midds are used extensively in horse and dairy feeds, they have a special value also in hog feed combinations. Dealers should advise their customers starting pigs on this feed, to give only about one-fourth of the oil midds to begin with. But a straight ration of the midds can be worked into in less than a week.

During the growing period when there is ample pasturage, 75 per cent of palmo midds can be used with 25 per cent corn to good effect. As a finishing feed, satisfactory results are obtained with a half-and-half proportion of the midds and corn or corn products.

Protein and fibre content of middlings are unchanged by the application of palm oil, running about 16 and 9 per cent respectively. The fat content, however, is enhanced from 3 to 5 per cent, and the moisture content is lower.

The Newsome Feed & Grain Company, Pittsburgh, Pa., which handles great quantities of oil midds, relates that the question is often asked why manufacturers use so expensive an article as middlings for absorbing palm oil from tin plate. In the process of plate manufacture, the plate is so easily scratched, it is explained, that only the softest material can be used. Thus only the best quality midds are utilized.

Midds, out-bound from the plate mills, are freed of all metal and foreign matter by magnets, screens and suction devices, before being sacked.

COTTONSEED MEAL MAKES NEW LOWS FOR SEASON

Cottonseed developed a firmer tone during the past week at Memphis, on a continuation of mill buying in the nearby positions, at between $36 and $37, while selling has dried up for the time being, on a continuation of bad weather preventing a steady movement to cash handlers, and slowing up country movement to the mills or to Memphis, against committments in the Futures. Late in the week Memphis cash buyers reported a better volume of buying for immediate shipment, and it is probable that the present tight situation may be relieved somewhat next week, as seed under contract are being loaded more freely, and there is a more general disposition to liquidate accumulated stocks at tonight's close, than has been apparent since the middle of January.

Cottonseed meal with only minor reactions declined steadily during past week, and at the close Saturday showed a decline averaging nearly $2 per ton in the active options through June, while July, August and September show a net decline of only around $1.50 and continue to maintain premiums over the nearer deliveries. News affecting meal values continues to run more bearish than otherwise, but some were of the opinion at Saturday's close that the decline had probably discounted at least most of the unfavorable conditions. On the other hand, European concentrates continue to be forced on an unwilling domestic market, and exports of meal and cake for the last 30 days are negligible, particularly as compared with a normal outlet. The selling, particularly late in the week, seemed to originate mostly with tired longs, and owners of the actual, while the buying was in large part by shorts against sales higher up, and by cash interests against sales of the actual, which while in only fair day to day tonnage aggregate a total probably not far from normal for this season of the year.

INCREASED OFFERINGS WEAKEN HAY MARKET

Increased offerings of all classes of hay with receipts generally in excess of current trade requirements weakened the hay market during the week ending February 8. Prices were not greatly changed although a larger percentage of the offerings were selling lower within the range, according to the weekly hay market review of the United States Bureau of Agricultural Economics. The better grades of Timothy were readily taken but Clover and Alfalfa, particularly of the lower grades, were slow sale.

Receipts of hay at eastern markets were fairly large while demand continued only moderately active. Railroad terminals were becoming well stocked at Boston and current offerings were in excess of requirements at New York with medium to the lower grades constituting the bulk of the receipts at both markets. Price concessions were necessary to prevent accumulation of stocks at New York. Marketing in the central western Timothy markets were also larger with receipts in excess of market demand at Pittsburgh where some accumulation was reported. A fairly active inquiry from nearby southern points was reported at Cincinnati where good grades of Timothy were in demand with Clover and Alfalfa which constituted the bulk of the heavy receipts difficult to move. A large proportion of the arrivals were shipments on previous purchases. The Chicago market had an easier tone as a result of a heavier run of hay to that market. Shipping demand was absorbing most of the offerings of dairy hay but local buyers were more discriminating as to the quality of their purchases. Country loadings were reported of moderate volume. Receipts at Minneapolis were extremely light and quotations were largely nominal.

Alfalfa prices declined $1 to $2 per ton in central western markets as a result of the sharply increased receipts with no corresponding enlargement in demand. A large proportion of the arrivals at Kansas City were of the lower grades and accumulation of this hay caused some congestion in railroad yards. Prices were reduced $2 to $4 per ton on this quality hay in order to prevent storage and demurrage charges. High grade leafy Alfalfa was scarce and in active demand from dairymen and rabbit feeders. Mills bought a moderate amount of green hay and stockyards took the medium grades with good color and leafy. Supplies at Omaha were also in excess of the limited demand and prices were reduced about $1 per ton.

Pacific Coast Alfalfa market made further declines under reduced demand as a result of improved pasturage conditions and the continued unfavorable situation in the market for dairy products.

Prairie markets held steady with receipts of this class of hay comparatively light. Prices were practically unchanged with demand sufficiently active at both Kansas City and Omaha to absorb the current offerings.

Demand in southeastern consuming areas continued slow with trade requirements largely filled by the heavier receipts of the previous week. Stocks at Memphis were reported fairly large with buyers restricting purchases of Alfalfa at current quotations. Offerings at Atlanta were ample to meet the current demand.

LESS COTTONSEED MEAL BEING USED AS FERTILIZER

Decrease in the use of cottonseed meal as fertilizer on the farm, is shown in a report issued by the United States Department of Agriculture. Approximately 174,100 short tons of cottonseed meal were used as fertilizer in the year ended July 31, 1929, as compared with about 250,000 tons in the preceding 12 months and 444,000 tons in the 12 months ending July 31, 1927.

Of the 174,100 tons used as fertilizer last year, about 98,800 tons were used directly by farmers and 75,300 tons in the manufacture of commercial fertilizers. The 174,100 tons represented slightly less than 8 per cent of the crushings from the 1928 cottonseed crop, whereas the quantity used the preceding year represented about 12 per cent of the crushings from the 1927 crop. About 16 per cent of the crushings from the 1926 crop was consumed as fertilizer.

The total supply of cottonseed cake and meal available in the 1928-29 season was about 2,314,000 tons. Of this, about 298,000 tons was exported, 174,100 was used for fertilizer, and 77,000 tons was carried over into the next season. This leaves 1,765,000 tons for domestic consumption as feed, either straight or in combination with other products, and compares with about 1,565,000 tons in 1927-28 and 1,974,000 tons in 1926-27.

LARGER SUPPLIES AND EASIER TONE IN NEW YORK HAY MART

By C. K. TRAFTON

Although hay business in the New York market has remained about normal since January 15, the tone on the whole has been rather easier, and especially early in February when some accumulation of supplies, and especially of the medium and lower grades, became noticeable. Shortly after our last review was written the tone was rather firm as demand was fairly good while supplies were rather light (notably at the Thirty-Third Street yard), although there were fair offerings in Brooklyn. As usual the firmness was especially marked on the top grades, it being almost impossible to buy really choice No. 1 which was given a nominal value of $27. At this time the weather was still too unfavorable to permit of a larger movement from the interior, but later arrivals increased somewhat while there was no corresponding improvement in the demand as the weather was against heavy consumption for the time being.

As a consequence, although strictly choice No. 1 was still said to be salable at $27, top prices otherwise were generally regarded as extreme and even for good No. 2 the basis was barely maintained. This was especially the case in Brooklyn where No. 1 in large bales was said to be available at $25, while No. 3 got down to $18, against a previous top of $21. It was said to be especially hard to move Clover Mixed hay.

In spite of the somewhat larger movement to this market it is still difficult to buy No. 1 hay in the country, but distributors look for larger receipts of poor grades during the next two months.

GOTHAM FEED TRADE DULL

In spite of further reductions in prices ranging from about $1 to $4 per ton, there was a further shrinkage in the volume of business in the New York feeds market during the past month under review. The continued slackness of demand at a time when business should be at least fairly good apparently reflects, as much as anything elsewhere, the feeling of depression in many lines of business. In short, in the feed market as well as elsewhere, there is a general lack of confidence and as a consequence consumers and distributors have been buying no more than sufficient to meet urgent present requirements. Obviously this makes business for forward shipment virtually impossible.

In the meantime, pressure to sell has become more urgent and, in addition to more liberal offers from Buffalo, the Northwest, and the Southwest, competition from Argentina has become more serious. Local producers have also been offering although one of the largest seems to be out of the market as far as bran is concerned. For the time being, at least, Canadian pressure has been lacking in this market. Spot Argentine bran is now offered at $28 f.o.b. N. Y., or equal to about $30@$31, delivered at nearby points, a decline for the month of $3.50@$4.

Moreover, considerable bran has been booked for March, April, or May shipment on a basis of $26 f.o.b. N. Y. As a consequence domestic producers recently offered bran as low as $32.50 and are now quoting $33, against $35 a month ago, while standard middlings went to a discount, selling at $32 and now ruling at $32.50.

Corn goods have continued in poor demand although white hominy is offered more freely and $4 lower at $35.60 in sacks and $34.10 bulk. Yellow hominy is not offered quite so freely as white and hence is quoted at the same price, or a decline of $3.75. Cottonseed oil meal has been in unusually poor demand although prices are $2.75@$3.25 lower with immediate and February shipment quoted on a basis of $38.75 for 36 per cent, $42.25 for 41 per cent, and $45 for 43 per cent.

Linseed oil meal is $4 lower with producers more eager to sell owing to the poor export demand for cake as a result of much lower markets in Europe. They quote 32 per cent at $53.75 delivered and 34 per cent at $54.75, but buyers remain indifferent. Beet Pulp was again depressed by additional liberal arrivals from Europe. Previously we had reported arrivals of about 54,475 bags and about 52,873 bags more have come in, including about 27,000 from Italy and the balance from the Baltic.

NEW FEED BRANDS

"BIG LEAGUE" for horse and mule feeds, poultry feeds, hog feeds, sheep feeds, dog feeds, pigeon feeds, rabbit feeds, and dairy cattle feeds. Meridian Grain & Elevator Company, Meridian, Miss. Filed November 4, 1929. Serial No. 291,994. Published January 7, 1930. Claims use since August 27, 1921.

"EGG NUTS" for poultry feed. Schreiber Milling & Grain Company, St. Joseph, Mo. Filed April 8, 1929. Serial No. 282,061. Published January 7, 1930. Claims use since December 20, 1928.

"NUTLETS" for livestock and poultry feed. Schreiber Milling & Grain Company, St. Joseph, Mo. Filed April 8, 1929. Serial No. 282,062. Published January 7, 1930. Claims use since December 20, 1928.

"CHICKLETS" for poultry feed. Schreiber Milling & Grain Company, St. Joseph, Mo. Filed April 8, 1929. Serial No. 282,064. Published January 7, 1930. Claims use since January 28, 1929.

"CREAM NUTS" for livestock feed. Schreiber Milling & Grain Company, St. Joseph, Mo. Filed April 8, 1929. Serial No. 282,065. Published January 7, 1930. Claims use since December 20, 1928.

"CHECKER" for animal feed in the form of cracked corn. Ralston Purina Company, St. Louis, Mo. Filed June 17, 1929. Serial No. 285,688. Published January 14, 1930. Claims use since April 1, 1922.

"MID-STATE" for stock and poultry feeds. E. M. Hart, doing business as Feeders Co-Operative System of Omaha, Hastings, Neb. Filed December 3, 1929. Serial No. 293,178. Published January 14, 1930. Claims use since September 15, 1929.

"FARM-TESTED" for stock and poultry feed. General Mills, Inc., Minneapolis, Minn. Filed July 15, 1929. Serial No. 287,133. Published January 28, 1930. Claims use since July 1, 1929.

"WASHINGTON" for poultry and stock feeds. Wilkins-Rogers Milling Company, Inc., Washington, D. C. Filed December 5, 1929. Serial No. 293,303. Published February 4, 1930. Claims use since July, 1928.

Not Subject to Opposition

"PROVEN PULLET GROWER" for poultry foods. Albers Bros. Milling Company, San Francisco, Calif. Filed June 10, 1929. Serial No. 285,317. Published January 7, 1930. Claims use since November 2, 1928.

"MATCHLESS" for horse and mule feeds, poultry feeds, hog feeds, sheep feeds, dog feeds pigeon feeds, rabbit feeds, and dairy feeds. Meridian Grain & Elevator Company, Meridian, Miss. Filed September 30, 1929. Published January 21, 1930. Claims use since October 21, 1922.

Trademarks Registered

264,998. Poultry feeds, dairy feeds, pig feeds, and wheat flour. The Aurora Flour Mills Company, Junction City, Kan. Filed June 5, 1929. Serial No. 285,061. Published September 24, 1929. Registered December 10, 1929.

265,119. Poultry foods, to-wit, chick mash, egg mash, scratch grains, chop feed, and growing mash. Southern Milling Company, Augusta, Ga. Filed February 7, 1929. Serial No. 279,010. Published October 1, 1929. Registered December 17, 1929.

265,308. Meat scraps, chicken mashes, and bone meal. Packer Products Company, Cedar Rapids, Iowa. Filed June 24, 1929. Serial No. 286,073. Published October 8, 1929. Registered December 24, 1929.

265,380. Wheat gray shorts, wheat bran poultry feed, and grain meal. Rosedale Milling Company, Rosedale Station, Kansas City, Kan. Filed January 3, 1929. Serial No. 277,555. Published October 15, 1929. Registered December 24, 1929.

265,409. Chicken scratch grains and pearl grits. Kalmbach-Burckett Company, Inc., Shreveport, La. Filed May 6, 1929. Serial No. 283,568. Published October 8, 1929. Registered December 24, 1929.

265,428. Wheat bran, wheat mixed feed, wheat grey shorts, horse and mule feeds, poultry feeds, and dairy feeds. Saxony Mills, St. Louis, Mo. Filed August 28, 1929. Serial No. 289,131. Published October 8, 1929. Registered December 24, 1929.

266,073. Stock Feed. Josey-Miller Company, Beaumont, Texas. Filed August 30, 1929. Serial No. 289,192. Published October 29, 1929. Registered January 14, 1930.

266,284. Oats used for stock feed. Norris Grain Company, Chicago, Ill. Filed October 10, 1927. Serial No. 255,861. Published February 19, 1929. Registered January 14, 1930.

266,337. Dairy Feed and Mixed Feed for Livestock. El Campo Rice Milling Company, El Campo, Texas. Filed November 26, 1928. Serial No. 275,811. Published October 29, 1929. Registered January 14, 1930.

266,446. Shelled Raw Pop Corn. The H. D. Lee Mercantile Company, Salina, Kan., and Kansas City, Mo. Filed March 18, 1929. Serial No. 280,926. Published November 5, 1929. Registered January 21, 1930.

266,849. Chick Mash, Growing Mash, Developing Mash, Chick Starter, Scratch Feed, and Egg Mash. Wells-Osen Milling Company, De Pere, Wis. Filed October 10, 1929. Serial No. 290,919. Published November 19, 1929. Registered February 4, 1930.

Trademark Registrations Renewed

77,636. Timothy Seed. Registered April 26, 1910. George Craver's Sons, Binghamton, N. Y. Renewed April 26, 1930, to Craver-Dickinson Seed Company, Buffalo, N. Y., a corporation of New York, successor. Registered January 7, 1930.

UNUSUALLY good yields on the French wheat crop has reduced the net import requirements of France to about one-half of last year's takings.

ASSOCIATIONS

CRITICIZE FARM BOARD AT INDIANA GRAIN DEALERS' TWENTY-NINTH CONVENTION

By HOWARD M. RUDEAUX

The twenty-ninth annual convention of the Indiana Grain Dealers Association attracted one of the largest groups in several years. Despite the flooded condition in many parts of the state, the adverse weather with the thermometer hovering around zero, and a spinal meningitis epidemic in Indianapolis, there were more than 200 delegates from over the state gathered in the assembly room of the board of trade building, where severe censure of governmental paternalism as manifested in the farm relief bill for controlling surplus crops met with applause. E. E. Elliott of Muncie, president of the association, and Dick Miller, president of the City Trust Company of Indianapolis, declared the bill to be a political maneuver rather than a constructive bit of legislation based on sound economic principles.

Officers elected are as follows: E. E. Elliott, re-elected president; G. G. Davis, re-elected vice-president; Bert A. Boyd and Fred K. Sale, re-elected treasurer and secretary. Directors elected were J. L. Davis, Seymour, for one year and Frank Hutchinson, Lawrenceburg, for a period of two years as millers' representatives; Lew Hill, Indianapolis, one year and E. K. Sheppard, for a period of two years, representing the Indianapolis Board of Trade; O. L. Barr, of Bicknell, and C. A. Ross, of Rensselaer, for a period of two years, each representing the country shippers.

After the address of welcome by Otto P. Deluse, president of the Indianapolis Board of Trade, Mr. Deluse warned the grain dealers of the dangerous situation now confronting the present marketing system, with the possibility of loss of investment, saying, in part:

ADDRESS BY OTTO P. DELUSE

As an individual interested in the grain business and expressing my personal views with reference to the future of our industry, I believe that notwithstanding

OTTO P. DELUSE

the dark and ominous clouds which have gathered, that right and justice will finally prevail and conditions improve.

This part of the universe has been called the granary of the world. Thousands of elevators and agencies of distribution have been brought into existence through marketing necessity, and private capital aggregating many millions has been invested. You men, and the firms you represent, have given time, money and service in developing the grain business on the theory that it was vitally necessary and would endure. And now, after constant encouragement to invest your capital and devoting a life-time endeavor to the business, we are told with startling effrontery that it is all wrong, that the system is evil and, at least by suggestion and implication, that we are undesirable.

Today grain is handled and marketed at less expense than any other farm commodity. That has been admitted by the Federal Trade Commission and is acknowledged by practical men of business. The grain marketing system in this country has no equal anywhere in the world in point of stability and efficiency. And yet recently there has come into existence a movement of potential strength to establish a different system of handling grain, which, if carried out, will cause tremendous loss to 80 per cent of those now engaged in the business, including terminal elevators, millers, and merchandisers.

You are confronting a dangerous situation and a menace to our marketing system with its resultant loss of investment.

The principals propounded by the farm board, as I understand and view them, are unfair and unjust as they differentiate between private and group ownership and invested capital, undoubtedly a violation of our fundamental laws and a law which it seems to me is unalloyed class legislation. It is my opinion that no quasi-Government controlled or directed enterprise will be operated as economically as private business. The dual organizations with varied ramifications, proposed in the new system, will cause increased overhead and heavy burden. That surely has been time and again demonstrated in various pool operations. Stop and consider the cost of pool storage, the transfer charges, insurance, dockage, shrinkage, interest, etc., and the administrative and executive charges. Forced economy such as private initiative requires is not possible.

Stabilize the grain markets by all means. Create new markets; expend a few millions in research work and develop processes whereby grain can be converted into potential fluids for industrial and commercial purposes; increase consumption and advise care in planting acreage and prevent over-production. For, after all, that old immutable law of supply and demand will prevail. Let's help the farmer by reducing his taxes; the cost of farm implements, other essentials and manufactured commodities, and lower freight rates which are very high.

It can be done without destroying existing facilities and pauperizing grain dealers who approximate 80 per cent of the industry, and whose only crime has been that they were and are the farmers' best friend.

I have noticed that when the price through natural tendencies swings upward, some concern in Washington assumes the credit even if by innuendo, but if it breaks—a silence and not a peep. Expensive newspapermen and publicity staffs are maintained. Broadcasting is done daily, all to influence public opinion and create favorable sentiment, which propaganda our better judgment, based upon experience, history and economic principles, tells us is a perseverance in error as far as the farm relief question is concerned.

Let us co-operate with our co-operative friends and institutions to the end that all survive and be happy. Don't you think it is time to make a declaration and place ourselves in the proper light before public opinion? In my judgment, the time is here for less wishbone and more backbone. If we are wrong, let's find it out. If we are right, let us say so and not apologize and by silence acquiesce and agree in what seems to us a mistaken and prejudicial proceeding.

Shall we sit idly by and see ruination approach without a word of objection? It is a serious situation, gentlemen, and we have a right and it is our duty to voice our sentiments and state our position. Has the farm board spoken to, or advised with, representatives of our organization? I believe not. And instead of encouraging suggestions they have not even tolerated them. We are anxious and willing to assist in any movement to better agricultural conditions.

Our fellow members, the co-operative farmer and elevator man, of which many belong to this organization, sense the injustice of a policy that carries ruination and does not offer a solution to the question of farm relief and they even hesitate to wholeheartedly subscribe thereto. Justice demands consideration of the established grain trade.

I suggest for your consideration the adoption of some method to place before the public and leaders of the new movement information and economic facts which will permit the formation of sound opinion and a policy of fair play. Advise with the farmers and with one another and in the meanwhile be comforted in the hope that eventually everything will come out all right.

I am proud of our business. We have given service, counsel, and assistance in a manner that measures up to every standard of ethics and honorable business relations.

In responding to the address of welcome, G. G. Davis, Tipton, said that it was a pleasure to come to Indianapolis, and hoped the present movement on foot to which Mr. Deluse referred would terminate.

E. E. Elliott, president of the association, was the next to attack the farm relief measure.

PRESIDENT ELLIOTT'S ADDRESS

We are always glad to come to Indianapolis. We are glad to meet grain dealers, millers, seed men, coal men, men from Indiana and men from every state. This is a good place to exchange ideas, to both give and receive one from the other. It is also like Christmas—a good time to forget unpleasant things.

In looking back on the past year of 1929 we find the year has been anything but easy for the grain trade, in fact, most all lines of business have suffered. The highs and the lows in the stock market were made, and we certainly hope the lows in the wheat market have been also recorded. There was a heavy demand for money the first of the year for investments and the last of the year the demand for money was equally heavy for living expenses. It seems to me the readjustment of everything has taken place or is taking place. The unparalleled disturbance of such proportions, except only in war time, can only be the indication of the violation of business principles or a method that is worn threadbare or become obsolete.

I do not want to appear as favoring the old jolt wagon transportation, or the tallow candle for illumination of the home, nor care I to be put entirely on the side of the standpatter in politics, yet I have voted for Jim Watson all my life. I do feel with problems that are before us, that is the economical marketing of grain, that we, the grain dealers, who are directly interested and who are responsible for the most economical system should move with considerable caution in any effort to change the present system of handling grain.

Digressing a little further for the purpose of substantiating the effects of a violated principle which has caused as much disturbance as any one thing, I shall refer again to the stock market. At the beginning of last year I was told to buy certain stocks as it was the opinion of good, sound business men that the earning power would justify their par value. Later in the year I was told to buy stocks that had advanced almost double and some of them treble for the reason that they were worth the quotations on the New York Stock Exchange. All earning capacity for these stocks were forgotten. Newspapers, magazines, drifted from the earning power to the quotation until the whole country was saturated with the idea that stocks no more will be rated on true value based on brick and mortar or earning capacity, but the true value would be found in the quotation on the New York Stock Exchange.

You all know the results. I think I am safe in saying that stocks and bonds with few exceptions are worth now as much as they ever were when true value is taken into consideration. Fundamentally, stocks earning 7 per cent are not now or never have been worth 200 per cent. Stocks earning 11 per cent never were worth 3 to 1. So getting down to their true basis of values we would say that the business of the country is sound, and that we can expect 1930 to be a year of activity and remuneration. I would like to add the experiment was hardly worth what it cost.

History will direct that 1929 should have full credit of the passage of a farm bill. We believe, and are honest in our opinion, that the Federal Farm Act, as now written, is one of the most far-reaching and elastic bills that was ever before Congress. It places in the hands of nine men one-half billions of dollars of the people's money to be used at their discretion to foster development of co-operative associations of producers, with no reference made to the already established system of handling grain. It reaches into most every line of production and its effect will be felt, or already has been felt in all lines of business.

The question might be asked here, "Has there been violation of an economic law? Have grain dealers and all other marketing agencies fallen down completely in their operations of marketing grain? Has the margin for handling grain and for services rendered become excessive? Have we actually imposed on the American people by our stupidity and ignorance, or has the present system become inactive and obsolete. Or is this the work of theorists, or politicians?"

To these questions we think that Charles W. Lonsdale, of Kansas City, answered completely in his letter to Chairman Legge when he declined the appointment to

E. E. ELLIOTT

become the general manager of the Federal Farm Board, which is as follows:

"While I am wholly sympathetic toward all sound effort to improve the relative economic position of agriculture, I believe there are certain fundamentals which cannot safely be violated and I am compelled to refuse the tender of responsibility as directing head of the Farmers National Grain Corporation because of my sincere convictions that the plan as at present outlined will fail. The Agricultural Marketing Act is in its application to the grain trade an indictment of the efficiency and economy of the present competitive system of grain handling. It proposes ultimately to destroy this system and to set up in its stead co-operative, grower-owned control with a dual objective of accomplishing economics in handling and bringing about price stabilization by what is called 'orderly marketing.' As for the first of these objectives, while it is possible that there may be waste in the country handling of grain, co-operative country elevators have not convincingly proved their efficacy in reducing these wastes. On the contrary, they have failed in large numbers through inability to compete with commercial buyers and shippers."

The Indiana grain dealers have no quarrel with the Federal Farm Board. Neither have they anything but encouragement for all sound endeavors to place grain marketing on a more economical basis, if possible to do, whether it be private or Governmental.

We must reserve the right, however, to criticize all agencies or endeavors, whose efforts are not based on sound, economical business basis! We hope this convention will thoroughly discuss this subject.

We are of a further opinion that the position the grain dealers now hold, and when I say grain dealers I mean millers and all handlers of grain and for the service it would be possible for them to render, that it would not be amiss to ask the national Government for an amendment to this law allowing the farm board to deal individually or collectively with any organization that will handle the grain in the most economical way.

I would be ungrateful if I did not refer at this time to the good work done by our efficient secretary the past year. His quick response, his keen alertness, foresight, and hard work deserve the very creditable report which he will give later.

Also, no less can be said of the splendid work of our transportation committee. This committee has functioned well this year under the chairmanship of Harold Gray. It has been called on a number of times and each time has been successfully rewarded. Their work along with the national and other organizations in behalf of the small shipper and feed dealer deserves considerable credit.

The legislative committee on account of no state legislation has confined their work, we understand, more largely to the national Congress. I understand also that special efforts are being made on the Strong bill. This is a bill that all grain shippers should be interested in, and one that ought to pass this session of Congress.

Our crop improvement committee, Edgar Evans, chairman, with a number of other good, wide-awake millers and grain dealers, have been on the job the whole year. Very early in the season they started on different varie-

ties of wheat to be sown last fall, and we believe their activities will result in a very favorable showing this year. While so far they have been confining most of their work to the standardizing of the different varieties of wheat, we think it a good time now for all grain dealers to assist them in special activities along the line of securing better seed corn and seed oats. I understand the excess moisture and early fall freezing has again jeopardized the seed corn situation. Incidentally, I would like to emphasize that all grain elevators take an active part in their own town and territory in helping to secure the right variety of seed corn and seed that will be sure to grow.

A splendid year can be reported on the arbitration committee, as there has not been one case before them. We think this speaks well for the grain dealers.

Each year invariably marks the passing of one or more members of our association. This year we are compelled to acknowledge the loss of Albert Lockridge of Roachdale; James R. Guild of Medarysville; and A. E. Reynolds of Crawfordsville, three men of high character, strong in their belief, justice and honesty, loved by all who knew them and a keenly felt loss to the association.

In a clipping from a newspaper from Roachdale, we read that Mr. Lockridge's death was sudden. He was stricken at the elevator while at work. He was 57 years old, practically a young man. He had spent most of his life in the grain business. He left a family of his widow and four children. His funeral was held at Roachdale and the burial at Greencastle.

Just six months ago I stood at the side of Ed Reynolds just as I stand here today, he the picture of health and a smile of happiness on his face. Gentlemen, you no doubt remember what I said when I introduced him to you to speak on the subject that was assigned to him, and the answer he gave.

I said, "Here is a man who has done more for the grain trade for what he has received than any one in all the world." I am glad I said it. He turned and smiled and thanked me for the statement and said that he had been "amply paid if he could think he had rendered some little service to the grain dealers."

In closing, I would like to make use of a part of a memoriam written by a dear friend, P. E. Goodrich, and was read at the national convention.

"It is fitting and proper that we stop at this time and pay tribute to this loyal friend, who thought not of himself when service was to be rendered to his legion of friends and especially to the Grain and Feed Dealers National Association. And as we, in this convention, say goodbye to one whom we have known and loved so well, let us, as we recall his sterling worth, his achievements and his many virtues, highly resolve that we who yet remain will endeavor to profit by his example and rededicate ourselves to strive diligently to keep our honorable, necessary business on the exalted plane he strived to enthrone it. If we do but this we will most fittingly honor his memory."

Fred K. Sale, secretary of the association, read his report.

REPORT OF THE SECRETARY

Twenty-eight years ago this month the Indiana Grain Dealers Association came into existence. The fact that the organization has existed this length of time is conclusive proof that the motives for its formation were sincere, its ideals were high, and that it has served a useful purpose to the grain trade here in Indiana. The old ship has witnessed several attempts of "promoters" to not only try to divide the ranks of the established grain dealers, but also to inveigle the farmers into schemes which have been much to their detriment rather than their help. We are still "carrying on" and will likely continue to do so, to the farmers' profit and welfare, if you will support the Indiana Grain Dealers Association as you should.

Today we are faced with a more serious situation than we have ever been heretofore. What are you going to do about it? Are you going to sit back with folded arms and wait impatiently to see what happens, or are you going ahead with such plans as you may have had in mind, tend to your own business as you never have before, cut down your expenses where possible and continue to render service and satisfaction to your customers? I recommend the latter. The grain, milling and feed business are legitimate and necessary businesses. You have nothing to be ashamed of in your business methods and you have been paying the farmer every cent you could for his products and have paid him cash for them. Mr. Farmer has secured more for his grain by dealing with you than he has through "pool" ideas, in this country as well as in Canada, in spite of propaganda given out to the contrary through newspapers and innumerable other sources.

I suddenly find I am not covering the subject matter that I should and which should be a resumé of the association work of my office during the past year. From the last meeting to April 15 the affairs of the association were ably carried on by Miss True, at which time I became your secretary by action of the board of managers. At that time the office of the National Hay Association, of which I am also secretary-treasurer, was moved to Indianapolis and thereafter the salaries and office expense of both associations were to be shared equally. Many feel that the action of the board has been justified and a material saving in the operation of this association will be reflected in the financial statement, which will be given just a little later.

Some 20 odd grain group meetings were held during the past eight months in various parts of the state and with an actual attendance of 542. With but two exceptions, and these on account of bad weather and conflicting attractions, the attendance was excellent. Mr. Whalen, Federal grain supervisor, accompanied me to a number of these meetings and explained grading methods and late in the season gave demonstrations with a moisture tester with some local new corn. Two or three addresses on soy beans were provided in localities where there were good supplies of beans raised. Personally, I very much favor these group meetings to be held at the logical time and on matters of local interest. There is no other way that I know of in producing greater beneficial results than in these meetings. They bring members and non-members together to discuss business matters and make for a better understanding among competitors. They bring about confidence within the trade as no other means will accomplish. They have practically eliminated the cut-throat competition which formerly existed and their reaction greatly strengthens the Association.

Considerable of our time this year has been devoted to transportation affairs and the same will likely prove true for this year. The railroads today are making every inroad possible upon the grain, feed, and milling trades, to take away existing privileges and to inflict greater burdens on us at every opportunity. Constant vigilance along this line must be maintained in the near future. The Indiana Grain Dealers Association is the only organization in the state which is giving any attention to guarding your interests along transportation lines. Isn't that fact alone worth your continued membership? It also warrants the active support and membership of every grain dealer in the state, whether he be a co-operative or farmer elevator, or of the old line.

I will not go into detail concerning the various dockets we have been working on, but I will merely add that I have appeared in Chicago twice during the year before the Central Freight Association Committee. I have supported L. E. Banta, traffic manager of the Indianapolis Board of Trade, in his untiring and successful efforts to secure transit privileges on soy beans and to eliminate the milling charge on same. We now want the same reconsigning rules on beans as is given grain. The increase in the production of soy beans in Indiana has been remarkable and here is another farm product which the elevators should handle and you should prepare yourselves to do so.

Numerous claims have come to our attention for adjusting. All have been satisfactorily handled and settled with one exception, and this case has come in since January 1. There is a splendid opportunity for more of our members to secure assistance from the association along this line, if they will but make use of the same.

We might suggest right here that when contemplating business with a firm unknown to you, first satisfy yourself thoroughly as to their reliability. A letter of inquiry to my office may save you a trouble-case later.

The total membership at the last annual meeting was 411. During the year we have dropped 71 for the reasons of non-payment of dues, out of business, resigned, and deaths. During the year we secured 28 new direct members and 19 additional stations, making our present membership 387. Any member delinquent for three months after any dues paying period is dropped for non-payment. With the help of some eight loyal booster members we have produced the results just mentioned, notwithstanding the adverse conditions confronting us. How much more could we have accomplished if more of our members had submitted just one new member? Do so this year, and start in here and today. We are delighted to have many of our non-member friends with us today and we want your application before you go back home. Don't wait to be invited, but take the initiative yourself.

In my remarks covering the financial report I will not take the time to enumerate the various items of receipts and disbursements, but will cover the subject in a general way. By way of explanation, may I state, that on account of a new bookkeeping system I installed on January 1, 1930, it would be difficult to give an itemized

SECRETARY SALE

comparison as of January 1 with the same date a year ago. Hereafter, we will make our report for the calendar year instead of from one convention time to the next. Prepaid dues for 1930 coming in before January 1 were deposited after that date, so for the first time we know just how we stand financially before the receipt of any dues for the new year. I am happy to inform you that we have not only lived within our income for the past year, ending December 31, but that we had over $1,000 in the bank as a balance to carry over to the new year.

For the sake of comparison with the figures presented at the last convention, if we should take the amount of 1930 dues received and conservatively estimate the net profit from advertising this year, we would show at least $1,700 more cash on hand now than this time last year. All bills for the year were paid up to date on December 31, 1929. I have recommended to the treasurer that $1,500 of our present cash on hand be placed on interest until such time as needed. This has been done.

During the year I have secured payment upon several additional stations which had not been paying heretofore but should have. The by-laws provide that additional stations owned and operated by a member shall be paid upon and by direction of the board of managers at their last meeting. I shall expect every member to comply fully with our rules.

The 1930 directory of this association will be printed and distributed now as soon as possible. Upon request of the board of managers, I am publishing this directory at the first of our new year, rather than at the close. There will be some material changes in this year's book which we hope you will like. We sent out postal cards to all grain and milling interests in the state asking for definite information concerning their facilities. Only about half of these cards were returned, so if the information is not complete this year, it may be that your card was not received. The amount of advertising is as large, if not larger, than last year and our net profits, after deducting cost of publication, will be somewhat larger.

In working with the special committee appointed to revise the constitution and by-laws during the past year and having given much careful consideration to the matter of some additional changes, I feel disposed to offer some recommendations at this time as a part of my report. In doing so, my only thought is for the best interests of the association. Conditions are changing in the grain business, as well as in trade associations, and we must meet these at the proper time and with the idea of till further solidifying our membership. The following recommendations of changes in the constitution are submitted and might be referred to the nominating committee, or a special committee, for a report at the first business session tomorrow for consideration:

1. That the number of the board of managers be increased from six to eight, and that they shall serve for two years. The terms of one-half, or five, will expire in alternating years, or in other words, five new directors will be elected each year for a term of two years. I recommend in the selection of the new board of managers that more care be given to the geographical distribution of same in the state, as well as given more representation to the milling interests and the terminal markets.

2. That the newly-elected officers shall take office immediately and that a board of managers' meeting shall be held following the adjournment of the annual convention to transact such business as may properly come before it.

I further recommend again this year that the president appoint a committee to further revise or rewrite the constitution and by-laws, as well as the arbitration rules. The rules then to either be printed in pamphlet form and submitted to the entire membership for ratification within 10 days after receipt, or to make a full report at the next annual convention.

In closing, I desire to publicly express my appreciation to President Elliott and each member of the board of managers, for their council and advice during the year. Miss True, my assistant, has proven of inestimable value to me and is capable, willing, and surely is loyal to me and the association. The members of the various committees have given freely of their time and membership generally has given me their splendid support. I truly thank you all, at the same time urgently request an even greater support on the part of all to your secretary for this year.

The report of the treasurer was read by R. B. McConnel, acting treasurer in the place of Bert A. Boyd, who was unable to attend the meeting on account of his health.

An address, dealing with "Business Outlook for 1930," by Dick Miller, president of the City Trust Company, Indianapolis, followed.

"We are stuck in the mud, and have nothing to unload," said Mr. Miller. He discussed the marvelous development of industry in the past 30 years, costs of farm products, etc. He spoke of the great aggregations of wealth that are entering and destroying industry, of commercial traveling, of the great dynamic force back of selling, mass production, and the reduced production costs. Mr. Miller predicted a readjustment in all business during 1930 and one that would be general.

He insisted that there was ample money in the country for legitimate business and that too much money had been in the hands of eastern speculators during the past year.

"While I am in sympathy with the farmer, I can't help but feel that American politics are entering too much in farm relief problems," he said. "Organized business is better able to work out its own problems than the Government and there is sufficient business today to solve this problem. I am of the opinion that it would not be amiss to ask the national Government for an amendment to the law, allowing the farm board to deal individually or collectively with any organization that will handle grain in the most economical way. Whenever the Government steps into business with the avowed intention of dominating the law of supply and demand in that business, it is demonstrating a paternalism that bodes no good for the country as a whole. The Government has indicated its intention of handling surplus crops. They have told the farmer: 'You go ahead and produce. If you produce too much, we will absorb the difference.' They have announced that they will devote $500,000,000 to this purpose. Now, since they know they will be paid for their surplus crops, don't you think the farmer will produce it? You know he will. And where do the American taxpayers get off?"

The report of the legislative committee calling attention to and commending the Strong Bill was read by Walter M. Moore of Covington, who requested the recommendations in the secretary's report be adopted. A motion was made by Mr. Moore and seconded, vote was called by president, and recommendations were unanimously adopted.

During the discussion period which brought to a close the meeting on Thursday the buying and handling of soy beans was the topic of conversation. Frederick A. Wand, of the Archer & Daniels Company, told the delegates that the soy bean had been grown for 5,000 years in the Orient but that little could be learned from these people. He explained the handling of the crop and harvesting, which is remote and antiquated in that country. He warned the elevator men to be careful about storing beans which were treacherous and likely to result in heavy loss. He spoke of the soy bean pool now in operation in some sections of the country and warned against any dealings with the organization. In closing, he exhibited some of the products made from soy beans, and predicted that in a few years, the growing of the beans would net the farmer more per bushel than wheat.

The following committees were next appointed by the president: Nominating committee, Elmer Hutchinson, chairman, E. I. Woodard, E. K. Sowash, Frank Witt, and A. D. Shirley; auditing committee, Hal Thompson and Bert Springer; resolutions committee, E. V. Butler, chairman, D. J. Schuh, and W. M. Moore. The usual banquet was held on Thursday evening at the Columbia Club.

where a purse of more than $50 was made up for the sufferers in the flooded districts of the state.

FRIDAY SESSION

The meeting on Friday, was opened by Edgar H. Evans, of the Acme-Evans Company, Indianapolis, who spoke of the "Grain Dealers and Millers Crop Improvement Work." His talk follows, in part:

TALK OF EDGAR H. EVANS

After several preliminary meetings sometime over a year ago, attended by agricultural experiment station speakers, and a few millers from the three states of Indiana, Ohio and Michigan, a large meeting of these elements, plus representatives from farm organizations and railroad men and trade journals, was invited, at the instance of Harold Anderson of the National Milling Company of Toledo, to meet at Toledo. At this meeting was organized the Tri-State Soft Wheat Millers Association, financed by a group of millers, particularly the National Milling Company.

Now, the purpose of this organization is, first, to standardize varieties of Soft wheat that are suitable to each state. There may be certain parts of one state that should have a different variety than certain parts of the same state. Maybe some states should have a different variety from other states and it was a problem to develop from all the resources at our command these varieties, but particularly to reduce the number from something like, I think it was 100 different varieties in use in the past few years, down to something like two or three for each state.

The next problem was to get these standard varieties grown by the farmers and to prevent unstandardized varieties from being generally released.

The third phase is that of research, which is provided for by scholarships at the Purdue Experiment Station, provided by the National Milling Company to work out improved varieties of wheat that are already in use and to develop others if need arose.

Now, in this working out of the problem, which is particularly of distribution, the millers and the grain dealers have a particular function. First, they are asked to put up informative posters at the mills or elevators, which will give descriptions of the varieties of wheat that are recommended, not more than two at any one place; also having the endorsement of the research heads of the state agricultural schools and to secure information in regard to the location of seed wheat, so that farmers desiring to plant the standard varieties might be able to secure them readily.

Then their function was, by argument, persuasion, etc., to get the farmers to sow such wheat, and to exchange the standard varieties of wheat for other kinds, bushel for bushel, without charge.

Now, to develop in the farmers' minds, as well as in some of the grain dealers' minds, the difference in value between good and poor wheat, a maximum and minimum discount sheet was drawn up, showing the discount or the premium that should be paid for wheat of different weights and different grades of different conditions. This, I think, has been very generally distributed, and should convey to the farmers' mind that the farmer can get more for his good wheat and should certainly be able to convey to the grain dealer's mind that he shouldn't pay the same for poor wheat that he does for high-grade wheat.

There were other results of this campaign, and other purposes, one of which was to develop the support of the county agents who had also been invited to this meeting at Toledo, so that varieties of wheat might be located, or that influence might be enlisted to get the farmers to plant the proper varieties; having a number of railroad special trains is also being considered and this fall may be carried through.

All of this work, of course, must be developed in connection with the agricultural experiment station experts to whom we are under a very great obligation, and without whom none of this work would have been at all possible.

There is an organization called the Soft Wheat Millers Association, which has for some of its purposes the very objects that the Tri-State Wheat Improvement Association has, and it was so impressed with the work that was being done, it contributed $1,000, not exceeding $1,000 in each state, depending upon the amount of money that the millers raised.

Then there was laboratory work which is being carried on in certain mills and by the experiment stations.

Now, to give you an idea of what is being done by our own experiment station at Purdue, I will read you a part of a letter that I have received from Professor Cutler, to whom we are under very great obligations for a great many years, and also Dr. Wiancko.

Professor Cutler writes: "A young man by the name of W. W. Worzella, a 1929 graduate in agriculture, from the Wisconsin University, has been employed under this fellowship. His appointment dates as of July 1, 1929, so that he has been at work for six months or more. Mr. Worzella is engaged primarily in wheat breeding work as planned at Toledo. In addition, you will recall that recommendations were made to study the root habits of Winter wheats relative to variations as among our common varieties, more especially those that show a wide range of winter hardiness. This work has not been attempted in this connection so that we do not know whether there is any correlation between the nature of the root growth of different varieties of wheat to their winter hardiness. If there is any variation which can be correlated to resistance to winter killing, the plant breeder should be aware of it. It is by means of variations in the many characteristics which go to make up the wheat plant that the breeder is able to make any progress at all. When he finds variations he knows at once that he has found a key by which improvement can be effected.

"From the plant breeding standpoint, Mr. Worzella has helped to carry along the work that was under way when he arrived; since, however, new plans have been laid out whereby the wheat breeding work has been greatly increased. A large number of the old, well-established varieties have been added to our tests to compare with some of the newer types and varieties and will be studied very carefully with a view to cross pollination work. Many of these varieties are now growing in our greenhouse provided for this purpose and are to be studied during the winter with a view to selection and crossing work during the month of May proximo. Many crosses will, therefore, be made in the greenhouse and will be made in the field.

"Mr. Worzella is a very energetic fellow and capable of doing a large volume of work so that he is carrying on some additional studies looking toward the development of a better technique in ascertaining the probable baking and milling qualities of wheat. I think I have emphasized on more than one occasion that the plant breeders do not have any definite guide, either physically or chemically, as to the relative milling and baking quality of the many new wheats that he is constantly producing, and so far as I know, no technique has been worked out looking toward this end. What we need is a test, the simpler the better, by which we can take a few grams of grain and by subjecting these to the test arrive at a definite estimate of its intrinsic worth for milling and baking. As we do not have a test at this stage which will enable us to determine the value of wheats in such small quantities, we are trying to develop a simple technique which will help us in this connection. This is being studied along both physical and chemical lines."

This will give you an idea of the thoroughness with which the department at Purdue is addressing itself to this matter.

If we have the co-operation of all the factors mentioned, and there has been very gratifying response to it, we should be able to have at least in these three states a very noteworthy standardization. The Spring wheat of the Northwest is known very widely for certain qualities; the Hard wheat of Kansas also for certain very distinct qualities. There is good reason to believe that the movement in which we are now engaged will result in Soft Winter wheats, the flour from which will be of such quality and characteristics as will fit them most successfully for a great variety of uses for cracker bakers, and in the home the flavor and baking qualities will make them superior to the flours from any other wheat. This will take some years, but if the present policy, modified as time may indicate, is pursued consistently, the wheats of the Ohio Valley region will have an enviable reputation, both at home and abroad, and the farm problem will be simplified and the milling and grain business enhanced.

The report of the transportation committee was read by Harold L. Gray, chairman, Crawfordsville.

Trucking problems was another subject for open discussion. The price of trucking grain, coal, and feed has been carried on as an unprofitable item it was revealed, by many of the elevator operators and it was recommended that a fixed price of 50 cents a ton be charged for city deliveries and an additional charge of 20 cents a mile be added for deliveries out of the city or village limits.

Charles Quinn, secretary of the Grain and Feed Dealers National Association, whose opposition to farm board activities is known to grain interests, spoke on "The Agricultural Marketing Act," again voicing his disapproval of it.

The afternoon meeting was given over to committee reports, the report of the transportation committee following in part:

Three important dockets have been acted upon recently:

C. F. A. Docket Advice No. 22386, in which changes were to be made in grain rates to terminal markets, among which were Detroit, Toledo, Cleveland, Indianapolis, Louisville and Cincinnati, which would have proven a hardship to shippers in this territory. It was contended by the carriers that some of the rates would be lower and others increased, but the fact shows that very few of the rates have been less than the 83⅓ per cent of the sixth-class rate, which was proposed. Our association, along with others, entered protest at once that this increase would be unfair, unjust and detrimental to ourselves as well as the agricultural interests. A hearing was given in Chicago on August 20, but no further action has been taken by the carriers since that time.

Another very important docket in which every shipper, buyer and dealer is vitally interested was docket No. 22607. In this the carriers ask for the following:

1. An advance in the stop-off charge from $6.30 to $10 for each stop.
2. Elimination of stop-off privilege on freight in bulk, any and all kinds.

This called for immediate and concerted action. A fine response was received from the shippers and our association was represented at Chicago on September 17 by our secretary, Fred Sale. A large number of representatives from C. F. A. territory was present and finding so much opposition, and the proposition of such great magnitude, the hearing was postponed. Up to this time, we have not received any notice for another hearing. We suggest that each shipper collect any information possible along this line and be ready to give it if called upon to do so.

Another proposition has been presented which should be of interest to all shippers. Every year many cars arrive at the market for official inspection that have leaked while in motion. Large numbers of these have been repaired while the cars were in transit but without any notation of having been done so by the carrier. All cars which do not show a leak or physical defect when inspected are declared "clear record cars," and the shippers are obliged to take the loss. Present rules are not sufficient to protect the shippers because no report is made of any repair, although it may appear on the records of the carrier at any stop while en route to market.

The carriers contend that since these records are subject to the examination of the shippers, that this covers the situation fully. Of course, examination by the shipper is almost physically impossible. He cannot, without great expense and difficulty, search to find whether the car has been repaired or is clear. We feel that it is only fair and reasonable that the shipper should be protected by a notation that will follow any car which has been repaired. This report should be made by the railroad at destination along with the weight certificate and at the time when the car is unloaded. This we believe is a fair proposition and a just service to the shipper from the carrier. We hope they will join in with us on this request.

Our secretary, Fred Sale, assisted in getting the transit privilege on soy beans through this market and I wish to take this opportunity to say that Mr. Sale has been very active in all these transportation matters and really deserves most of the credit for our success in the recent dockets. We commend him highly and he deserves the ardent support of each shipper in this association.

We also take this opportunity to make note of the great assistance we have received from Mr. Henry L. Goemann, chairman of the National Association Traffic Committee.

Frederick Landis was the closing speaker. He gave his reminiscences of his experience as a speaker and told of associations with various figures prominent in the public eye.

CELEBRATE FARM RELIEF AT IOWA CONVENTION

The twenty-sixth annual convention of the Iowa Farmers Grain Dealers Association, held in the Hawkeye State Capital late last month, was in the nature of a jubilee with the Federal Farm Board serving as the central cause of elation.

Samuel R. McKelvie, wheat member of the farm board, appeared on the program. An address of special interest was that of S. G. Cottington, who is president of the Farmers National Grain Corporation as well as president of the Iowa organization. He said:

Our association has been busy in its usual routine of business. We have helped to renew a good many charters, helped with insurance, bonds, auditing and income tax work, and have assisted in a great many other problems that have come to our various elevator groups.

We have also been involved in this larger and possibly largest problem of so-called farm relief. A great deal of this movement is history. As you all know, for some eight years Congress wrestled with this problem and a great presidential campaign was waged, and our good president, soon after taking office called the Congress of the United States in special session to enact some law for the relief of agriculture, and immediately the agricultural committees convened in Washington to try to work out this problem. These committees called before them a great many of the leaders of co-operative agricultural organizations, and on or about March 18 your president received a wire to appear before these committees and to help draft some kind of a bill that Congress could pass that would be helpful to the farmers of the United States. A call was also issued to the different co-operative organizations to meet at that same time at Washington. Your president was also invited to sit in at this conference which was held on March 21, 22 and 23.

I was called before the Senate Committee on March 26 and the House Committee on March 28. Some of the ideas and suggestions that were offered by our organization were embodied in the new law, known as the Agricultural Marketing Act.

This act, as you know was designed to help the co-operative organizations, and it particularly stresses the organization of agriculture and the getting together of the different types of commodity organizations. Also in this act the Federal Farm Board was created consisting of eight members, representing the different commodities of agriculture, to be appointed by the president, and the secretary of agriculture, who was made a member ex-officio.

Ex-Governor Samuel R. McKelvie of Lincoln, Neb., was appointed to represent the grain, and has proved to be a very able, efficient and conscientious worker for the cause of the grain farmer.

The big problem that we have is organizing the farmer and the farm groups. We have our agriculture problems which are very perplexing and our difficulties cannot be overcome by the individual farmer or group acting alone. Our production line of agriculture consisting of small units is stretched entirely across the continent from the Lakes to the Gulf and is divided into 6,000,000 small producing plants, each managed by that most independent and individualistic of all industrial captains, the American farmer. It is not one industry but many, each commodity has its problems. The farmer competes, not alone with foreign standards of wages and living but with different domestic standards as well. The most favored area is in competition with all other sections of our own country, and each area, through its production contributes to the surplus which so often and so seriously depresses the price for all.

Progress of farm commodities from the producer to the consumer is wasteful and disorderly. A great amount of cross hauling takes place. Products do not flow evenly to points of consumption. There is a dearth in one market and a glut in another. In fact there are great wastees in the whole chain of distribution which is a tax on both the producer and consumer. Agriculture needs a sales department to help find new markets to distribute the flow of products and to assure to the producer a square deal on his products.

We are now able to inform you definitely that the National Farmers Elevator Grain Company co-operative will continue as the central organization of the farmers' elevators of Illinois and Iowa, as it has been for the last five years.

Boards of Directors of farmers' grain dealers associations of both Iowa and Illinois, at recent meetings, voted unanimously to make no change in the present central organization setup, which means that the National Farmers Elevator Grain Company co-operative, will be the medium through which its member elevators will become a working part of the Farmers National Grain Corporation, established by the Federal Farm Board under the provisions of the Agricultural Marketing Act. The National Farmers Elevator Grain Company co-operative, already is a stockholder in the Farmers National Grain Corporation, being among the first of a number of grain co-operatives to align itself with the national selling organization.

The National Farmers Elevator Grain Company co-operative was incorporated May 1.

We are traveling an uncharted course; we will make mistakes but we will try and guide each succeeding step by the knowledge gained by the last one. We shall have opposition. Let no one fondly imagine that there is no opposition to this law. Already there arises a chorus of doubt and objection from those who fear their business may be affected. That chorus will grow louder and the opposition stronger, but I do hope we may have the support of those who claim to be the friends of agriculture.

Obviously, neither the Federal government nor the Farmers National Grain Corporation can deal directly and individually with the thousands of farmers who will be benefited by improvement of marketing conditions, whether grain, cotton or some other commodity is involved. Even if such individual service were practical it would be futile, because improvement of marketing conditions cannot come through the individual control of insignificantly small portions of the great volume of farm crops produced in the United States. A way must be found to combine these individual marketing activities in great centralized agencies, acting for all the qualified co-operatives. As far as grain is concerned, this is what the Farmers National Grain Corporation sets out to do. Its success will be measured by the degree of support given it by those who should be most interested—the farmers themselves.

Every grain farmer in America should be interested in the progress of the Farmers National Grain Corporation, for this is the agency through which it is hoped to put the production of grain on a basis that will return to the grower the cost of his operations and a fair profit.

The Farmers National Grain Corporation is a going concern. Already it is recognized by market experts and reckoned with by market factors as a powerful influence against radical price decline. Its very presence as a friend of the farmer in the market admittedly has enhanced the value of his grains.

Already 23 large scale co-operative grain marketing organizations either have purchased stock in this great central agency, or have taken steps necessary to the acquirement of stock. At a most conservative estimate, these 23 organizations will handle of the 1930 crop no less than 200,000,000 bushels of grain, a volume which, in itself, almost insures the success of the National Co-operative. Undoubtedly many more organizations will avail themselves of this opportunity before the crops of 1930 begin to leave the farms. But only the foundation

is laid. The building must be done by the grain growers —those of the vast fields of the west and those of the back forties.

After eight years of strenuous effort, marked by many a setback, the American farmer now seems in a fair way to come into at least a part of his own. While all his problems cannot be said at the moment to have been solved, the instrumentalities for the solution of some of them are now at his beck and call. If he heeds the message; if he accepts the challenge, he may soon—and well—be the master of his markets as well as the master of his fields.

The new secretary of the Iowa Farmers Grain Dealers Association, W. H. Thompson, introduced several other speakers at each of the well-attended meetings called before adjournment on January 30.

J. A. Schmitz, weighmaster of the Chicago Board of Trade, was present to answer miscellaneous questions of members.

UNIFORM CREDIT POLICY

A. S. Walton, of Palo Alto, Calif., chairman of the committee on credit rules for the California Hay, Grain and Feed Dealers Association, announces that agreement has been reached by members of that organization to limit credit extension to 30 days.

Delinquent customers of the western dealers will be billed with interest on their accounts due on the basis of 7 per cent per annum. A concession is offered to cash customers in the form of a dollar per ton discount on feed.

CONVENTION CALENDAR

February 19-21:—Minnesota Farmers Elevator Association, West Hotel, Minneapolis, Minn.

February 20-21:—Eastern Federation of Feed Merchants, Binghamton, N. Y., midwinter convention.

February 21:—Feed Dealers Association of Washington, Tacoma.

March 10:—National Scale Men's Association, Hotel Sherman, Chicago.

April 25-26:—Sixth annual convention of the California Grain, Hay and Feed Dealers Association, Los Angeles.

May 22-24:—American Feed Manufacturers Association, French Lick, Ind.

June 16-17:—Central Retail Feed Dealers Association, Milwaukee, Wis.

October 12:—Terminal Grain Weighmasters Association meets at the Hotel Sherman in Chicago.

October 13-15:—Grain and Feed Dealers National Association meets at the Hotel Sherman in Chicago.

October 14:—Chief Grain Inspectors National Association meets in Hotel Sherman, Chicago.

TRANSPORTATION

GULF GRAIN TRAFFIC HEAVY

Texas ports have shown a gratifying increase in grain exports for the current season which began July 1, 1929. Galveston's wheat exports for the season have amounted to 21,150,148 bushels as compared with 12,492,710 in the same period last year. January wheat loadings were 1,451,700 bushels, as against 1,216,586 for the same month last year. Grain exports through the port of Houston this season far surpass any other previous season, according to port officials, and the total for the entire season is expected to be around 10,000,000 bushels.

This is considered a very good gain, since grain exports through Houston were only inaugurated four years ago.

UNITED STATES GRAIN EXPORTS FOR 1929 SHOW 10 PER CENT DECLINE

A decline of approximately 10 per cent in exports of grain and grain products from the United States was noted for 1929 over 1928, grain shipments amounting to $286,354,000 going out in 1929 against $315,693,000 in 1928, a decrease of $31,339,000.

Exports of wheat and wheat flour amounted to $192,290,000, compared with $193,276,000 the previous year. Exports of wheat showed a decline of 6,243,000 bushels and a decline in value of $8,387,000.

The largest loss recorded during the past year was in exports of barley which showed a falling off of 22,144,000 bushels and $20,681,000. Some other items, however, showed notable gains. The principal gains follow:

	Exports	Per cent of gain
Corn, bushels	33,745,000	30.8
Rice, pounds	315,441,000	9.3
Wheat flour, barrels	13,663,000	15.3
Macaroni, pounds	10,740,000	7.6

EASTERN TRUNK LINES PLAN ADDITIONAL TARIFF

Notice has been filed by railroads which are members of the Eastern Trunk Line Association that a track storage charge of about five-sixths of a cent a month will become effective February 15 on grain held in car 10 days at New York, and 20 days at Baltimore, Philadelphia, and Boston.

This is interpreted to mean that if grain is held on track for 10 days in New York or 20 days in the other ports, a charge of 1/25 of a cent a day is to be made for each day ensuing after the expiration of the first three full days allowed for notice to the consignee. It is also understood by the trade that the rail grain contract and the legal rail rate cover delivery at all these ports to the vessel, per lighter or other physical intermediary or direct.

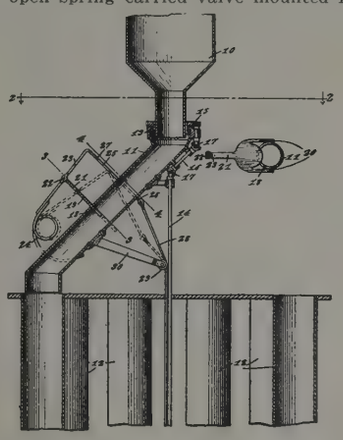
Objections have been made orally to the trunk line association on the grounds of expediency, injury to the trade of the ports, and like complaints. It is possible this new tariff may be stayed by the Interstate Commerce Commission.

GRAIN TRADE PATENTS

Bearing Date of January 14, 1930

Grain Elevator Spout. William Thomas, Petersburg, Neb. Filed May 8, 1929. No. 1,743,939. See cut.

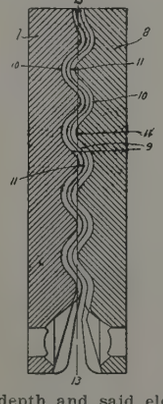
Claim: In a discharge spout for grain elevators, a normally open spring carried valve mounted for sliding movement transversely of the spout, a yoke enclosing the spout, and means pivotally connecting the yoke and valve to control the operation of the latter and means to actuate the yoke.



Bearing Date of January 21, 1930

Attrition Mill. Jonathan Markley and Edward M. Brennan, Springfield, Ohio, assignors to the Bauer Bros. Company, Springfield, Ohio, a corporation of Ohio. Filed March 8, 1928. No. 1,744,235. See cut.

Claim: In a mill of the character descried opposed relatively movable members, each member being formed with a series of alternate depressions and elevations extending about the same, said depressions being of uniform depth and said elevations being of gradually increasing height, and a series of outwardly extending ribs following said elevations and depressions and gradually decreasing in height, said rbs, depressions and elevations forming a seres of outwardly extending channels each of which decreases in size and increases in tortuousness toward the periphery of its member.



Attrition Mill. Erwin H. Hussey, Minneapolis, Minn., assignor to The Bauer Bros. Company, Springfield, Ohio, a corporation of Ohio. Filed March 8, 1928. No. 1,744,226. See cut.

Claim: In a mill of the character described, opposed relatively movable disks, teeth on each of said disks which co-operate with the teeth of the other disk, said teeth being so inclined and disposed with relation to the teeth of the other disk as to roll, rub and crush the material between opposed teeth without cutting the material.

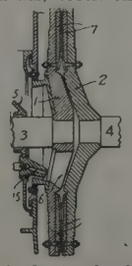
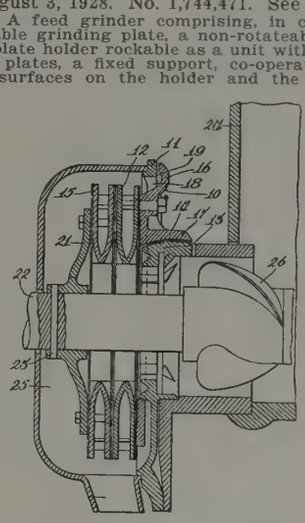


Plate mounting for feed grinders. Rex B. Hitchock, Chicago, Ill., assignor to International Harvester Company, a corporation of New Jersey. Filed August 3, 1928. No. 1,744,471. See cut.

Claim: A feed grinder comprising, in combination, a rotateable grinding plate, a non-rotateable grinding plate, a plate holder rockable as a unit with one of the grinding plates, a fixed support, co-operating curved bearing surfaces on the holder and the support to guide the holder in its rocking movements, and co-operating lock formations on the holder and the support releasable by tilting the holder.



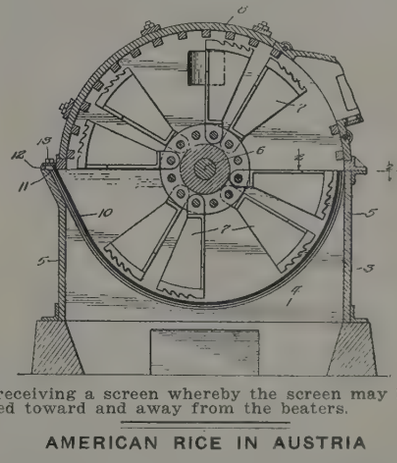
Groat Cutter. Theodore Kipp. Jr., Winnipeg, Man., Canada. Filed March 26, 1926. No. 1,744,169. See cut.

In a groat cutting machine, the combination with a rotary perforated drum, of a plurality of cutting knives located at the outer face of the drum and extending lengthwise thereof and simultaneously adjustable endwise on the drum.

Bearing Date of January 28, 1930

Grinding Mill. Albert J. Hazle, Jr., Chicago, Ill., assignor to Blatchford Calf Meal Company, Waukegan, Ill. Filed March 19, 1926. No. 1,745,330. See cut.

Claim: A centrifugal mill having a plurality of slots for receiving a screen whereby the screen may be adjusted toward and away from the beaters.



AMERICAN RICE IN AUSTRIA

There has been a steadily growing demand for rice in Austria during recent years with an increase in per capita consumption of rice from less than four pounds in 1914 to about 10 pounds in 1929, according to a report by American Consul General E. L. Harris at Vienna, received by the Foreign Service of the Bureau of Agricultural Economics. Along with this increase in rice consumption there has also been an increased demand for better quality rice.

Austria is wholly dependent on imports of cleaned rice to supply her rice requirements as no rice is produced in the country and there are no cleaning and polishing mills. Italy supplies about 50 per cent of Austria's rice imports, British India about 24 per cent and the United States about 5.4 per cent, which amounted to 863 short tons during the first half of 1929. Although American rice at present makes up a relatively small proportion of the total imports, it is interesting to note that imports from United States constituted only 0.7 per cent of the Austrian imports in 1926 and since then has increased more rapidly than have imports from any other country. The best quality varieties of Italian rice have long been in favor among Austrian consumers, according to Consul General Harris. Recently, however, American "Blue Rose" rice has become increasingly popular because of its attractive appearance and because it is shipped in 100-pound sacks which are more popular with retailers than the 220-pound sacks which are used for all other varieties.

UP TO June 30, 1930, a maximum importation of 3,674,000 bushels of foreign wheat will be allowed to pass into Portugal for use by registered millers.

FIELD SEEDS

PURE SEEDS PAY GENEROUS PROFITS

By FRANK R. MOORMAN
Sales Manager, Warren-Teed Seed Company, Chicago

One of the most important items in your stock is the seed you sell. And, strange as it may seem, this item is given less thought than many articles of minor importance to the farmer. Seed is the very basis of the farmers' existence and if it is treated as such, by the elevator operator, he will be repaid in many ways.

An astounding fact is that about 55 per cent of the seed used by farmers is home-grown or "traded" from one farmer to another. This is a particularly vicious practice not only because it eliminates a fair profit to the elevator operator, but because it is the most common method of infesting farms with noxious weeds. These weeds reduce the value of the farmers crop and if practiced long, will turn the cleanest of farms into a worthless weed garden. It does not stop there. One farm thus infested will contaminate an entire section or county.

The operator looks with covetous eyes on the thousands of dollars that pass between his customers in their "swapping" of seed, but to date he has been unable to cope with the problem because he cannot show a good reason for changing the farmers' habits.

This great volume of profitable business can be swung into the dealer's store by application of modern selling methods.

The only basis of a profitable seed business is pure seed. Naturally the farmer-customer will not buy seed from you at a higher price than his neighbor asks for the same quality of seed. You can see for yourself why the farmer gets his seed from his neighbors if he has bought seed from a dealer and then later discovered that a nice crop of weeds resulted. He will naturally object to paying a premium for seed that is no better than the seed he could buy at a bargain from his neighbor. Therefore it is necessary to sell the highest quality of seed it is possible to obtain and to teach customers the economy of using only the best seed. This practice will build permanent, satisfied customers and incidentally will make bigger profits for the elevator.

A thorough knowledge of the danger of weeds is also important because the weed evil is the foundation of sales talk.

The danger and expense of weeds cannot be overstated. A farm that is relatively clean may be ruined in a very few years by infestations of noxious weeds. Even a small percentage of these weeds will cause great damage unless the farmer uses extreme measure to keep them down.

A prominent College of Agriculture made an extensive survey of the seed being swapped among the farmers in their state. The results showed that the seed averaged less than 70 per cent pure. This figure is astounding and gives every elevator operator an excellent sales talk. If the danger of contaminated seed is not fully apparent to the farmer, the following facts will probably do the work.

A sample of Alsike Clover, analyzed by a midwestern university, showed a purity of 98 per cent. "Excellent seed" the farmer will agree. However, a further analysis of the 2 per cent weed content showed that a pound of this supposedly "pure" seed contained 18,816 weed seeds! The weeds consisted of:

288	Canada Thistle
4,272	Sorrel
288	Dock
1,712	Plantain
288	Foxtail
5,408	Chickweed
6,560	Other weeds

If the farmer who owned this seed planted 10 pounds to the acre, he would be planting 188,160 weeds on every acre!

Most of these weeds propagate at the rate of 100 to 15,000 times a year so it is almost impossible to realize the millions of noxious weeds that result. If this comparatively "pure" seed is capable of doing so much damage what, then, could be expected of the seed that is swapped between farmers when it averages only 70 per cent pure? And from the farmers standpoint, consider how expensive it is to spend weeks and months, getting a field in condition for planting and then to sow 30 per cent or more weeds and inert material. Such a practice is absolute waste of time and effort and it is very costly to the farmer. This is the most common method of infesting a farm with weeds. Of course a farm will never be entirely free from weeds, but at least the farmer should take every necessary precaution to guard against planting weeds.

Selling the pure seed idea is comparatively easy. In most cases it must be done individually when there is sufficient time to have a serious talk with your farmer prospect. Show them samples of pure seed and compare it with the seed he may have saved from his own crop. Learn his objections and study the problem. Learn how to meet his objections with logical, sound arguments.

If possible, have the prospect send a sample of his seed to the state laboratory to be tested and when the analysis is returned, compare the quality with your own stock. If your seed is the purest it is possible to obtain, you have proved your point and the actual sale is comparatively easy. You can take his old stock off his hands and sell it to the seed houses for cleaning.

Make use of all the modern merchandising media that the progressive seed houses have available for you. They have a wide variety of material such as direct-by-mail campaigns, envelope enclosures, sales booklets on the value of pure seed, window display material, radio talks for your local stations, farm paper advertising, cuts and copy for your local newspaper advertising, novelties and many other helpful activities that will actually sell seed for you if you will put it to work. Most of this material is furnished free and the elevator operator who uses it has a tremendous advantage over his competitor who does not.

There is another selling principle that will earn profits for you and for your customers if properly applied. Most dealers who handle seed carry two or three grades. When a customer asks for either of the two lower grades, always show him the best and explain the advantages that it has over the other brands. Then, if he insists on a less expensive brand, sell it to him. You will be surprised though, at the number of farmers who will buy the better seed even though they asked for the cheaper grade. This practice if handled properly will build up bigger profits for you and you will also be performing a valuable service to your customers.

The seed department of any elevator will pay real profit every year and will build good customers and friends for other departments if you apply modern merchandising methods. It is easy to claim that "my business is different" but the facts remain that there are profits to be had in the seed business if you will go after them aggressively.

Remember that a few years ago when we were boys on the farm every farm wife made her own soap and made most of the clothes for the family. The farmer plowed by hand, drove to town behind his horse and raised his own seed or swapped it with his neighbor.

Today most of that has changed. The farm wife buys her soap at the store, buys clothes for the family at the store and has most of the conveniences of her city cousin. The farmer has his tractor and drives to town in a good car but he still swaps seed with his neighbor.

The local elevator operator makes a good profit on nearly everything that the farmer uses but thousands of dollars in profit are lost every year because the farmer has not been sold on the value of pure seed.

It is time to modernize the seed business and the elevator can do it if the principles set forth here are practised.

SEED NEWS FROM THE FLOOD AREA

By W. B. CARLETON

Wholesale and retail seed dealers in Indiana say that while their trade during February has been rather slow, things are looking up just now and they believe spring and early summer trade will be real active and will show considerable improvement over the corresponding period of last year. One great problem facing the Indiana farmers just now is the question of getting ample good seed corn for planting next spring. Reports from various parts of the state say that there is a shortage of seed corn. Much of last year's corn has sap in it and is otherwise damaged. Farm agents in all parts of the state have taken up the problem and will lend all the help possible to the farmers.

* * *

Christian County, Ky., a few miles south of Evansville, has established a record in producing a crop of Korean seed that is worth more than $60,000, it is announced by W. E. Wiedeburg, county agent. This places the county in first place among all counties of the United States, according to Mr. Wiedeburg. "Korean Lespedeza has not only produced seed that sold for $175 per acre, but it produces hay of which the quality cannot be surpassed by any other legume," he says.

* * *

The flood along the Wabash and White Rivers in southern and eastern Indiana during January and February caused a great loss to the farmers of these valleys. It is estimated that the loss to the farmers in the Wabash Valley alone will be between $6,000,000 and $8,000,000. Practically all of last year's corn crop was either damaged or swept away by the flood. The Wabash Valley corn is famed as the best for the manufacture of hominy and now the hominy manufacturers are faced with the problem of looking elsewhere for their corn supply. A great deal of growing wheat along the Wabash River and tributaries also was covered with back water for several weeks, but the extent of the damage to the wheat cannot be estimated at this time. In the opinion of some of the county agents the damage to the growing wheat crop will not be heavy. Farmers in the flooded areas were assisted by the Red Cross. Many of the farmers say they will arrange to plant their crops in the spring as usual.

* * *

The seed corn problem is a most serious one in many of the counties of the state. R. M. East, county agricultural agent of Gibson County, recently went to Jasper, Ind., to act as a judge in the annual Dubois County corn show and reported that not a single ear of corn he examined showed germination quality. He said that if the farmers used the corn they now have on hand for seeding that the result would be disastrous. He said he wanted to warn farmers everywhere to be careful about their seed corn during the coming spring. At a meeting of farmers held recently at Evansville and attended by many farm bureau men, seedsmen and manufacturers, the seed corn situation was gone over by John F. Hull, county agricultural agent of Vanderburgh County. It was decided that farm bureaus in every county in the district will be centers for corn testing and all farmers have been asked to bring in their corn to be tested. Hull says the situation is worse now than it was in 1917 when farmers knew their corn was "dead." This year many farmers have been led to believe their corn is all right when in fact it is not, Hull declared.

* * *

Edward W. Kelly, manager of the Elkhorn Mill at Boonville and well known to the seed and feed dealers of southern Indiana, has announced he will seek the Republican nomination for auditor of Warrick County in the primary in May. He has been active in Republican politics for a number of years.

* * *

Seed and grain men in southern and central Indiana are interested in the announcement that the Midwest Shippers' Advisory Board, an organization of shippers, carriers and receivers, will be held in Evansville next October. More than 300 persons from Indiana, Illinois, Michigan and Iowa are expected to attend the Evansville meeting.

* * *

Several plans have been submitted for a proposed bridge across the Ohio river at Evansville, and it is expected that one of these plans will be accepted during the coming year. H. Guy Purcell, of the Purcell Seed Company and J. A. McCarthy, of the J. A. McCarthy Seed Company, both of that city are great boosters for the proposed bridge.

* * *

Directors of the Chamber of Commerce at Mt. Vernon are making an effort to secure a government expert on soy beans for an address in that city in the near future.

* * *

Appointment of the wheat and grain committee created by the Indiana State Legislature two years ago has been announced by Harry G. Leslie, governor of Indiana. Members of the committee are Professor A. T. Winnco, Lafayette, head of the crop experimentation department of the Purdue University; Elmer Hutchinson, of Arlington, Ind., and J. L. Davis, of Seymour, Ind.

The committee is empowered under the resolution "to make a survey of the wheat, corn, oats and other grain crops of the state for the purpose of improving economic resources through factors affecting the character, yields, quality, productivity and 'marketability' of such grains."

* * *

A report from Petersburg, Ind., recently stated

(Continued on Page 511)

ELEVATOR AND GRAIN NEWS

INDIANA

The Rolling Prairie (Ind.) Grain Company has changed its name to the Rolling Prairie Lumber & Grain Company, Inc.

The Farmers Co-operative Elevator Company has leased the plant of Wier & Crawley Lumber & Coal Company at Ligonier.

EASTERN

Merrill & Mayo, Inc., has been organized to manufacture and deal in grain, hay, flour and feed at Boston, Mass., and Waterville, Maine. Monroe J. Lorimer is president.

The Rollstone Grain Corporation, Fitchburg, Mass., has been formed to take over the business of Clarence R. Bacheller. The capital is $95,000. Clarence R. Bacheller is president.

The Farmers Co-operative Association, Frederick, Md., is considering the feasibility of consolidating the farmer-owned and farmer-operated elevators to comply with the Agricultural Marketing Act.

D. A. Stickell & Sons, Inc., Hagerstown, Md., have completed plans for rebuilding their grain elevator and flour mill, at a cost of approximately $100,000. New elevating, conveying, and cleaning equipment will be installed.

THE DAKOTAS

The Jud (N. D.) Elevator Company plans to install motors in its house this spring.

Construction work is progressing on the elevator of the Rosebud Grain Company at Wood, S. D.

The Farmers Elevator Company, Williston, N. D., has equipped its house with new automatic scales.

A 40,000-bushel iron-clad elevator is being built at Witten, S. D., by the Farmers Elevator Company.

The Fullerville (Yankton p.o., S. D.) Grain Company has equipped its plant with a 10-ton scale and a new dump.

The Jorgenson Elevator Company has added an oat huller and a feed grinder to its elevator at Dell Rapids, S. D.

The Starkweather (N. D.) Elevator Company has been closed because of speculation and mismanagement, it is reported.

Marvin C. Johnson has added new equipment, consisting of a revolving screen, leg, boot, head, and 26-inch feed grinder, to his elevator plant at Oldham, S. D.

Four elevators have recently merged and are operating as the Andover (S. D.) Grain Company. The companies include the Empire Elevator Company, the Miller Elevator Company, the Bagley Elevator Company, and the A. C. Mattson elevator. Electric motors will be installed this spring.

WESTERN

The Occidental Elevator Company, of Sidney, Mont., has closed its house.

The Chamber of Commerce at Havre, Mont., is promoting a plan for the building of a Federal grain storage warehouse in its city.

The Robinson Land & Live Stock Company, Walla Walla, Wash., has been incorporated with a capital of $250,000 to deal in grain, feed, hay and livestock.

Albertson-Cornell Bros. have contract for the building of a grain elevator and shipping gallery at Tacoma, Wash., for the Port Commission. Estimated cost is around $500,000.

C. C. Cate & Company, recently organized, will operate a general grain and feed business at Portland, Ore. Frank Ford, who was formerly with the Sunset Mills, is operating with Mr. Cate.

The Barkemeyer Grain & Seed Company has recently equipped its plant at Great Falls, Mont., with a 15-horsepower motor, three elevator legs, conveyor, car-unloading equipment, and a seed cleaner.

The Tacoma (Wash.) Grain Company plans to build a frame warehouse on the waterfront. The new structure will cost approximately $43,000. Contract has been let to Albertson & Cornell Bros. Work is to start at once.

The Nampa (Idaho) Seed & Grain Company has completed its new concrete warehouse. Grain is shelled, cleaned, ground and sacked automatically. The warehouse is equipped with a grader, two cleaners, a corn sheller, and grinder.

The Union Pacific Railroad has announced its intention to build a $175,000 elevator and flour mill at Salt Lake City, Utah, this year.

OHIO AND MICHIGAN

The Urbana Milling Company has completed a 15,000-bushel elevator at Urbana, Ohio.

The Farmers Elevator Company at Castalia, Ohio, has completed a 50 by 60-foot warehouse.

The Valley Camp Elevator Company, Fairport Harbor, Ohio, has been incorporated with a capital of $10,000.

The A. Torch & Sons Elevator Company, New Baltimore, Mich., has added coal as a sideline to its grain business.

The Ohio Grain Company, Mechanicsburg, Ohio, has been reorganized as the Ohio Grain Co-operative Association.

Hart Bros. have replaced the engine power in their elevator at Watrousville, Mich., with a 10-horsepower single-phase motor.

The St. Johns (Mich.) Agricultural Association has reorganized and changed its name to the St. Johns Co-operative Company.

The Toledo (Ohio) Grain & Milling Company has completed its new five-story grain storage warehouse. The new structure cost approximately $20,000.

The Highland County Farmers Co-operative Association, Hillsboro, Ohio, has been incorporated with a capital of $50,000. Incorporators are H. A. Robison, Thomas H. Nelson, J. F. Satterfield, Elmer Cook, and Harry W. Sauner.

The Michigan Elevator Exchange, Lansing, Mich., plans to launch a movement to take over most of the independent elevators in the bean producing sections of Michigan. These they will operate as co-operative units of their exchange. L. E. Osmer is manager.

SOUTHERN AND SOUTHWESTERN

The Texhoma (Okla.) Elevator Company has completed its new 100,000-bushel elevator.

Riffe Bros. Grain Company has completed its 120,000-bushel concrete elevator at Stratford, Texas.

The McReynolds Grain Company has sold its business at Canyon, Texas, to A. A. Walker and W. H. Hicks.

The W. C. Cowan Grain Company, Tulia, Texas, is occupying its new offices and warehouse, recently completed.

The Booker (Texas) Equity Exchange plans to do general repair work in its plant and increase the capacity of its machinery.

The Western Fuel Supply Company has been established at Levelland, Texas, by J. L. Dyess, of Lubbock, and F. M. Jackson, of Tahoka.

The Chickasha Milling Company will rebuild its elevator at Carnegie, Okla., which burned January 25, announces M. E. Humphrey, president.

The Santa Fe Grain Company is building a 25,000-bushel grain elevator at Friona, Texas. A warehouse will be built alongside the elevator.

The Farmers Co-operative Union, Hollis, Okla., has recently bought a site on which it will build a new plant which will include a flour and feed store.

The Superior Feed Mills Company, Oklahoma City, Okla., has let contract for the construction of a grain elevator at an approximate cost of $35,000.

The W. H. Smith Grain Company at Bay City, Texas, has been sold to S. R. Dickey who conducted a Ralston Purina branch at this point for many years.

The R. L. McClellan Grain Company has let contract for the erection of a warehouse at Morse, Texas, which it will use in connection with its elevator and feed business.

The Blackwell Mill & Elevator Company, Manchester, Okla., plans to rebuild its house which burned last November. A larger elevator will be erected than the one which burned.

Additional storage space is to be added to the Municipal Elevator at Houston, Texas, which will give the house a total capacity of 3,500,000 bushels. The new addition will cost around $1,500,000. The city of Houston has advertised for bids for construction.

The Darrouzett (Texas) Co-operative Association plans to wreck its present elevator and build a modern house of 50,000-bushels capacity. The new house is to be ready for the next crop.

The Star Mill & Elevator Company, Inc., Hennessey, Okla., has let contract to the Southwestern Engineering Company for its new elevator (previously reported), which will have a capacity of 100,000 bushels.

The J. M. North Grain Company has completed its new grain elevator at Perryton, Texas. The house has a capacity of around 30,000 bushels; it has 10 bins and is equipped with modern machinery, electrically operated.

The Oklahoma Wheat Pool Elevator Corporation is making a survey of elevators with a view to selecting the best type for the $400,000 house which it plans to build at Enid. The house will have a capacity of 3,000,000 bushels.

The Oklahoma Wheat Growers Association plans to build a 1,000,000-bushel grain elevator at Enid, which is to be completed June 20. Estimated cost is $350,000. Bids were received up to February 1. An additional unit of 3,000,000 bushels is to be built later.

The Perry Burrus Elevators will start work shortly on a 650,000-bushel grain storage addition to its plant at Lubbock, Texas. The new unit will be completed about June 1 and will give the company a total storage capacity at Lubbock of 1,250,000 bushels.

The new 35,000-bushel elevator which C. G. Hilker is building at Vega, Texas, will probably be completed this month. The house will be of cribbed construction and have 11 bins. Equipment will consist of a 10-ton dump scale and truck lift, conveyor leg, 12-inch belt, buckets, and other machinery. Mr. Hilker will operate as the C. S. Hilker Grain Company.

The Theodore Stivers Milling Company, whose plant at Cleveland, Tenn., burned recently, plans to build a new plant at Rome, Ga., consisting of a 75,000-bushel grain elevator, corn mill, mixed feed mill, flour mill, and two warehouses. The cost will approximate $200,000. The company is now occupying temporary offices in the Cherokee Life Insurance Company Building at Rome.

MISSOURI, KANSAS AND NEBRASKA

The Farmers Elevator Company plans to build a new house at Lehigh, Kan.

The Moscow (Kan.) Co-operative Equity Exchange has gone out of business.

The Missouri Pacific Railway will build a large elevator at Ralston, Neb., it is rumored.

The Scoular Bishop Grain Company, Kansas City, Mo., has closed its office at Sidney, Neb.

The Robinson Elevator Company plans to build a 30,000-bushel house at Grainfield, Kan.

O. C. Finch is handling lumber in connection with his grain business at Stockton, Kan.

The Imperial (Neb.) Co-operative Equity Exchange has discontinued its implement business.

Grothe Bros. have equipped their plant at Dorchester, Neb., with a new ball-bearing distributor.

The Nye & Jenks Grain Company has installed an electric motor in its elevator at Colon, Neb.

A head drive with a 7½-horsepower motor has been installed in the Farmers Elevator at Murdock, Neb.

The Farmers Co-operative Association has installed a grain cleaner in its plant at Gothenburg, Neb.

A new rope drive has been added to the equipment of the Holzapple Grain Company at Eldorado, Neb.

The Farmers Elevator at Pleasanton, Neb., has closed because of the shortage of crops in that territory.

The Maskell Elevator at Hartington, Neb., has been recently opened under the management of A. R. Olson.

The Karns Grain Products Company, Oswego, Kan., has recently purchased the H. W. Cole ele-

vator and mill at Chetopa, Kan. The plant, which has been closed for the past year, will be in charge of Merton Karns.

Contract is to be let soon, it is reported, for the building of a new elevator at Big Bow (Johnson p.o.) Kan.

The Red Willow (McCook p.o., Neb.) Equity Exchange has added a new roller bearing boot to its equipment.

The Peerless Flour Mills Company of Norton, Kan., plans to build a modern 30,000-bushel elevator at Norcatur.

The Farmers Union Co-operative Elevator Company, Spencer, Neb., has added a grain cleaner to its equipment.

Floyd Snyder has sold his elevator at Alma, Neb., to the Alma Co-operative Equity Exchange which took possession of the house on February 1.

The Shannon Grain Company has equipped its plant at Waco, Neb., with a new 175-foot cup belt and new cups.

The Nebraska-Iowa Grain Company of Omaha plans to install a grain drier in its 500,000-bushel elevator at Gibbon, Neb.

The Farmers Business Association, Inc., has improved its plant at Campbell, Neb., with a new tile office, recently completed.

The Farmers Elevator Company has installed a new truck dump and made other improvements in its plant at Brainerd, Neb.

The Greeley (Kan.) Milling Company plans to build a new elevator soon to replace the house which was destroyed by fire.

The Farmers National Grain Corporation has contracted for storage space of 2,500,000 bushels in Kansas City, Mo., it is reported.

The Wells-Abbott-Nieman Company, Inc., has leased its elevator at Schuyler, Neb., to the T. B. Hord Grain Company of Central City.

M. J. Clarke & Son have succeeded the Farmers Union Elevator Company at Howe, Neb. They will operate as the Howe Grain Company.

The Kismet (Kan.) Equity Exchange plans to build a 30,000-bushel grain elevator in accordance with a recent vote of its stockholders.

Raymond C. Pael plans to move to Rescue, Neb., to operate the elevator of the Farmers Co-operative Company which he bought last fall.

The stockholders of the Farmers Co-operative Elevator Company at Mount Hope, Kan., have voted to build a new elevator this year.

The Farmers Elevator Company at Murray, Neb., has leased its house to Sam F. Latta, former manager, who will operate under his name.

The Consolidated Flour Mills Company, Wichita, Kan., has sold its elevator at Medora, Kan., to the Buhler (Kan.) Mill & Elevator Company.

The Arnold Milling Company has about completed the concrete tanks of its new elevator at Sterling, Kan., and is now working on the headhouse.

The Shellabarger Mill & Elevator Company, Natoma, Kan., has equipped its plant with a 7½-horsepower motor and a five-bushel automatic scale.

The Farmers Grain & Supply Company, Hastings, Neb., has negotiated leases for the rental of seven of its grain elevators to the Consolidated Mills.

The Co-operative Equity Exchange has bought the Pettit Grain Company's elevator at Rolla, Kan. The Exchange now has two houses at this point.

Grothe Bros. have improved their elevator at Geneva, Neb., with a 15-ton Fairbanks Morse Scale, a truck dump and a large hammer mill for custom grinding.

The Farmers Union Co-operative Association is building a 30,000-bushel elevator at Glen Elder, Kan. The house will be equipped with modern machinery.

George Gano will let contract shortly for the erection of a 1,000,000-bushel terminal elevator at Hutchinson, Kan. Construction work will probably start March 1.

Contract has been let by the Kansas Milling Company for the erection of a modern concrete 200,000-bushel elevator at Montezuma, Kans. Construction work will start at once. M. B. Hill will be manager of the new house.

A new grain elevator to be built in East Kansas City, Mo., for the Missouri Pacific Railroad is expected to be completed by July 1. The railroad has applied to the city for a permit, specifying the site at 6700 Martin Avenue.

George Gano, operator of 50 country elevators, and grain broker at Hutchinson, Kan., announces that he will rebuild shortly the 60,000-bushel elevator which burned recently at Garden City. He also plans to build a smaller elevator at this point.

Contracts have been let to Horner & Wyatt, Kansas City, Mo., for the construction of grain storage units in western Kansas which will aggregate 800,000 bushels. Some of the concerns which will build additional storage units are the Co-operative Elevator & Supply Company at Meade; The Minneola (Kan.) Co-operative Exchange; The Fowler (Kan.) Equity Exchange, and the Co-operative Equity Exchange at Copeland.

George E. Gano will erect a modern 65,000-bushel elevator on the site of the W. R. Stevenson grain and coal business at Scott City, Kan. Mr. Gano recently purchased the site. Mr. Stevenson will continue with the new management, it is reported.

MINNESOTA AND WISCONSIN

The Farmers Elevator Company, Watson, Minn., has added lumber and fuel as sidelines to its grain business.

The Farmers National Grain Corporation has opened a branch office in Minneapolis and has leased the Kellogg elevator.

The Harland Flour & Feed Company, Minneapolis, Minn., has bought the elevator and feed business of William H. Koch at Owatonna.

The Farmers Elevator Company has equipped its plant at Westbrook, Minn., with a 15-ton scale, an air lift, and a six-horsepower gasoline engine.

The Ada (Minn.) Elevator Company is enlarging its office. The office of the south elevator is now connected with the office of the north elevator.

The Monarch Elevator Company, Ulen, Minn., is handling coal and feed in addition to its grain business. A coal shed has recently been built.

The Farmers Elevator Company at Revere, Minn., plans to wreck both its elevators at that point and build a modern elevator of 40,000-bushels capacity.

A. O. Radtke has sold his elevator which he has operated at Le Sueur Center, Minn., for the past 11 years, to the Atlas Elevator Company of Minneapolis.

The Hills (Minn.) Mercantile Company recently installed a 15-ton scale in its plant and enlarged its office. The company operates the farmers elevator under the above name.

The Liethen Grain Company is now occupying the first floor of its new five-story grain and feed warehouse which is being built at Appleton, Wis., as previously reported. The structure is of brick and reinforced concrete.

The Farmers Elevator at White Rock (Cannon Falls p. o.), Minn., has been closed for the winter because of the small amount of grain in that territory. The house will probably be re-opened next season, according to W. J. Scholes, manager.

The Harland Flour & Feed Company, Minneapolis, Minn., has leased the Sunwall Independent Elevator at Hayfield. V. F. Sunwall will continue as local manager. The company will also operate the feed mill in connection with the elevator.

Knauf & Tesch Company have sold their department store which they have conducted at Chilton, Wis., for 57 years, and will form a grain, feed and seed business. They have already acquired several elevators and warehouses in that part of Wisconsin.

From the Clintonville (Wis.) Co-operative Mercantile Company, which recently dissolved, two companies have been organized, the Clintonville Elevator Company, recently incorporated as previously reported, and the Clintonville Mercantile Company.

The Harland Flour & Feed Company, Minneapolis, Minn., has bought the elevator business of Schlitz Bros. at Caledonia. T. J. Schlitz will continue as manager. The company will improve the Schlitz elevator which it has rented. A feed department will be opened, and a feed mixer installed.

The Occident Terminal Elevator Company has let contract to Barnett & Record Company for the erection of a 2,000,000-bushel grain elevator at Duluth (St. Louis Bay), Minn. The new unit will consist of 48 reinforced concrete storage tanks which will cost approximately $500,000. Work has started on the foundation of the plant which will be completed by September 1. W. L. Brisley is manager of the company which is a subsidiary of the Russell-Miller Milling Company of Minneapolis, Minn., and Buffalo, N. Y.

ILLINOIS

J. H. Patterson Company has equipped its elevator at Marengo with a new leg.

The Farmers Elevator Company, Delavan, plans to become a co-operative organization.

The Uhlmann Grain Company, Chicago, Ill., has increased its capital stock to $2,400,000.

Markword & Mitchell, of Ursa, have bought the Knollengerg elevators at Rock Creek and at Ursa.

The Ludlow (Ill.) Elevator Company has decided to change its organization to a co-operative company.

A half interest in the Chadwick (Ill.) Supply Company (grain) has been purchased by Elmer Weber.

Henry J. Ruckrigel has sold his grain business, at Ottawa, including the 25,000-bushel elevator, feed building, coal sheds, and equipment, to the Wallace Grain & Supply Company. Mr. Ruckrigel is retiring because of ill health. He has been in the grain business for 27 years.

A movement is being promoted for establishing a farmers co-operative elevator at Sterling, it is reported.

The grain elevator at Elder Siding, near Colfax, has been leased by the Farmers Co-operative Grain Company.

The Federal Grain Elevators, Inc., have leased the properties of Turner Bros., who conduct a grain and coal business at Mansfield.

The Farmers Elevator Company at Ipava has installed new equipment, consisting of a corn sheller, oat huller, corn cracker, and mixer.

The grain firm of McGuire & Wright at Maro has dissolved partnership. Mr. McGuire has retired, and Mr. Wright will continue the business.

Phillips & Corray, who took over the old De Long elevator at Fithian last year, plan to install a traveling truck dump in the driveway of their elevator and to build coal sheds.

Woodward & Company are establishing a grain, feed, and coal business in the Prunty elevator at Grayville, which was recently purchased by D. T. Woodward, as previously reported.

The Hight Elevator Company, Springfield, has been incorporated with a capital of $50,000 to handle grain, feeds and seeds. Incorporators are J. C. and William Hight, and W. I. Moore.

James Hershberger & Sons have improved their elevator at Leverett with a 20-horsepower Fairbanks Morse Enclosed Motor, and electric lights. A truck lift and a feed grinder are to be installed later.

The elevators at Georgetown and Westville have been leased from the Spang estate by Smith & Smith who will operate as the Smith Grain Company. The C. B. Spang grain and milling business has been discontinued.

The Farmers Grain, Lumber & Coal Company at Thomasboro has equipped its plant with 16 ball bearings to protect friction points on main shafts in its elevator. Electric power is being put in the plant, the corn crib is being rebuilt, and a wagon dump is being installed.

The J. C. Griffith Lumber Company of Chana, is now operating its new 30,000-bushel concrete elevator, which has been built on the site of the Chana Grain & Lumber Company's plant which burned last fall. The elevator, which is electrically operated, has been equipped with a 26-inch feed grinder with two 30-horsepower motors.

The Le Grand Grain Company of Decatur has bought two elevators at Warrensburg, located nine miles from Decatur on the Peoria Railroad, from the Beal Grain Company and E. W. Jokisch Company, former owners. The new company will operate as the Warrensburg (Ill.) Grain Company. A grain drier is to be installed in one of the elevators.

IOWA

Eugene Downing has purchased the Nye-Jenks Elevator at Ute.

The Farmers Grain Company, of Polk City, has built a new office.

The Farmers Elevator Company, of Maurice, has installed an oat huller.

George Moulton has built new coal sheds adjoining his elevator at Cora.

H. C. Hale, of Shelby, has bought the Griswold (Iowa) Co-operative Elevator.

The Farmers Elevator Company has equipped its house at Boxholm with new scales.

The Kearney Elevator Company, Grinnell, has moved its office to a new location.

The Farmers Elevator Company has added an oat huller to its equipment at George.

The Weart & Lysaght Company has installed an oat huller in its elevator at Cherokee.

The office of the Axen Grain Company at Cornelia (Clarion p.o.) has been enlarged.

The Schulte Grain Company, Alexander, plans to add a new truck scale to its equipment.

The Independent Grain Company has sold its elevator at Popejoy to White & Ackerman.

Sterner & Co., Jordan, has completed a new grain elevator of approximately 100,000 bushels capacity.

The Farmers Co-operative Elevator Company has equipped its plant at Iowa Falls with an oat huller.

The Township Farmers Club (a farmers elevator) has equipped its plant at Rutland with an oat huller.

The Sloan Lumber Company, of Polk City, is contemplating the building of a new elevator, it is reported.

O. A. Talbott & Co. are contemplating the rebuilding of their grain elevator at Keokuk which was destroyed by fire.

The Farmers Co-operative Service Company was organized at Des Moines, during the Farmers Grain

Dealers Association's meeting, to replace the Farmers Elevator Supply Company and the Iowa Co-operative Brokerage Association.

The Hamlin (Iowa) Grain Company reports that it is considering changing its elevator power from electric to gas.

The farmers of Menlo are considering the purchase of the elevator there formerly operated by C. A. Wildman.

The Farmers Grain Company, Sheldahl, is considering replacing its present elevator this year with a new $15,000 house.

The Sloan Lumber Company, of Des Moines, plans to build an elevator at Herrold and at Crocker (Ankeny p.o.), it is reported.

The F. Muller & Son Grain Company, which recently purchased the Willert Elevator at Toronto, has been incorporated with a capital of $100,000.

H. H. Veldhouse is operating as the Veldhouse Grain Company the elevator business at Kanawha which he recently took over from his brother, N. H. Veldhouse.

The old elevator plant at Manilla, which was operated for many years by the Kansas City Grain Company, is being torn down because of insufficient grain in that market.

F. H. Nagel, present operator of the Nagel Elevator at Waukon, bought the defunct property on January 14. Mr. Nagel will assume all obligations standing against the property.

Arthur Agnew, of Waterloo, has taken over the interest of Ralph Francis in the Farmers Eelevator at Dunkerton. George Kleckner and Mr. Agnew are now sole owners. Mr. Agnew will be in charge.

The Farmers Iowa Grain Corporation, Fort Dodge, has recently been granted a charter. The company is capitalized at $50,000. J. P. Larson, formerly secretary of the Farmers Grain Dealers Association (Iowa), is president.

CANADA

Speculation on the market, it is said, caused the Bole Grain Company, and its subsidiary, the Electric Elevator Company, at Winnipeg, Man., to go into liquidation. The liabilities of the companies approximate $2,000,000, it is reported.

The Alberta Wheat Pool has completed the new 2,750,000-bushel unit to its terminal elevator at Vancouver.

The Bole Grain Company of Winnipeg has been liquidated, as has also its subsidiary the Electric Elevator Company.

The new 2,000,000-bushel grain elevator at Sarnia, Ont., is completed and ready for inspection. It is equipped with a marine leg.

The Union Terminals Elevator has let contract to Carter, Halls & Adinger for a 1,000,000-bushel addition to its plant on the Current River at Fort William, Ont.

The Lunnenburg Milling Company is building a 50,000-bushel elevator adjoining its plant at Bridgewater, N. S. The new house will be equipped with modern machinery.

D. S. Patterson & Co. has bought the brokerage business of the Malden Elevator Company, Winnipeg, Man. The Malden company will continue to operate its country and terminal elevators.

Electrical equipment will be installed shortly in the 5,500,000-bushel grain elevator which the Dominion Government is building at Prescott, Ont., construction of which was previously reported.

The Chamber of Commerce at Edmonton, Alta., is studying the grain storage situation there with a view to promoting the addition of a 1,000,000-bushel unit to the government's terminal elevator.

The Montreal (Quebec) Harbor Commission plans several improvements, including the installation of grain loading equipment on Alexandria pier, repairs in its grain elevator system, and the installation of conveyor belts in galleries on the three main piers. The improvements will cost approximately $300,000.

The Pacific Milling & Grain Company, Ltd., Vancouver, B. C., has recently acquired land, adjoining its plant, on which it plans to make extensive additions to its warehouse and plant. Two former officials of the Saskatchewan Wheat Pool Elevator have joined the company's staff. They are Donald MacRae and J. N. Addison.

FIRES—CASUALTIES

Westby, Mont.—Fire destroyed the Northland Elevator on January 15.

Tamora, Neb.—The local elevator was recently destroyed by fire.

Wilmont, Minn.—The E. A. Brown Elevator was damaged considerably in a recent fire.

Conway, Wash.—Fire totally destroyed the warehouse of the Gould Feed Company on January 18.

Sparks, Kan.—Fire destroyed the A. J. Elevator Company branch of the Quaker Oats Company on February 4.

Paeonian Springs, Va.—Fire destroyed the elevator of the Loudoun County Milling Company, causing a loss of $12,000.

Mountain View, Okla.—Fire destroyed the office and warehouse of the Farmers Co-operative Association on January 17.

Frederickstown, Pa.—Fire damaged the plant of the Crockett Grain Company on January 6, causing a loss of about $50,000.

McComb, Ohio.—Fire destroyed the corncob burner of the McComb (Ohio) Farmers Elevator, causing a loss of about $1,000.

Beaumont, Texas.—A recent fire at the Josey-Miller Grain Elevator was checked in time to prevent damage in excess of $1,500.

Hawley, Minn.—Fire recently destroyed the elevator, potato warehouse, and machinery shed of Torgerson Bros., causing a loss of about $15,000.

Mansfield, Ill.—Fire destroyed on January 25 a 20,000-bushel grain elevator at Mansfield, near Bloomington, causing a loss of several thousand dollars.

Farmersville, Ill.—Sparks from a passing train burned the elevator of the Fernandes Grain Company on February 7. The loss to grain is estimated at $5,000.

Claire City, S. D.—Fire badly damaged the Dahlberg Elevator recently. One side of the elevator, filled with grain, and the office were entirely destroyed.

Terre Haute, Ind.—Fire followed by a dust explosion destroyed the grain elevator of Cottrell Bros. on January 31. The elevator was located on the Prairieton road south of Terre Haute. The fire started in the top of the elevator and destroyed everything but parts of the office, garage, and engine room. Loss was several thousand dollars.

Blackfoot, Idaho.—The plant of the Idaho Grimm Alfalfa Growers burned January 18, causing an estimated loss of $200,000. Insurance about covered the loss.

Houston, Texas.—The office of the Meyer Grain Company was recently robbed of negotiable stock in the amount of $2,000, notes aggregating $10,000, and $60 in cash.

DeGraff, Minn.—The Farmers Elevator, containing 18,000 bushels of grain, burned on January 15. Ninety tons of coal were also burned. Loss is estimated at $35,000.

Monica, Ill.—Fire destroyed on February 1 the Santa Fe elevator, owned by Sylvester Lester. About 800 bushels of oats, owned by Charles Gelling, were burned.

White Hall, Ill.—Charles McNish, employed at the Potts-Hicks Grain Company was injured recently while repairing the corn sheller. In falling 16 feet from a ladder, he sustained a fractured collar bone, and injured his leg and wrist.

Chapin, Iowa.—Karl Kaus, assistant manager of the Farmers Elevator, was seriously injured when his truck collided recently with a freight train.

St. Boniface, Man.—Fire recently destroyed the hay sheds and contents, 40 tons of hay, belonging to the Soubry Grain & Feed Company, Ltd. The elevator was unharmed.

Council Bluffs, Iowa.—L. A. Booton slipped while examining the power shovel in the elevator of the Updike Grain Company and fell into the machinery. He was badly mangled.

Berryville, Ark.—Fire destroyed the grain elevator and mill of the North Arkansas Milling Company on January 19. The elevator contained a considerable quantity of grain.

Morrison, Iowa.—The Farmers Co-operative Elevator was destroyed recently. Estimated loss is $26,000. The elevator will be rebuilt at once, according to Herman Stock, manager.

Burt, N. D.—Fire recently damaged the elevator of the Aetna Grain Company, owned by George Beyer. Estimated loss is $1,000. A discarded cigarette is thought to have started the fire.

Dalton, Ohio.—F. O. Marty, who operates a grain elevator and mill at Dalton, was severely burned when the gasoline engine in his mill exploded. The property was damaged to the extent of $4,000.

Carnegie, Okla.—Fire destroyed the elevator of the Chickasha Milling Company on January 25. About 4,500 bushels of wheat were burned. The elevator will be rebuilt, announced M. E. Humphrey, president.

Garden City, Kan.—The 60,000-bushel grain elevator of George E. Gano was totally destroyed by fire on January 11. About 45,000 bushels of wheat and corn were burned. The structure, built less than a year ago, was valued at $40,000.

Marshfield, Ind.—Ura Seeger's elevator, located 12 miles from Marshfield, was entirely destroyed by fire on February 1. The loss is estimated at $25,000, which included 10,000 bushels of oats, two carloads of corn, and a large quantity of wheat.

Clinton, Iowa.—The grain and feed frame elevator of the Mac X Feed Milling Company was recently damaged by fire, causing a loss of around $30,000. Insurance covered the damage. Officials of the company announce that they plan to rebuild the elevator.

Collins (Lyons p. o.) Mich.—The Croel Elevator Company's plant was destroyed recently in a kerosene explosion while burning cobs as kindling. The building was valued at $7,000. About 500 bushels of wheat, 50 bushels of beans, and chicken feed were destroyed. The loss was partially covered by insurance.

Wendell, Idaho.—The Ahlquist frame elevator and warehouse burned January 10, causing a loss of about $250,000. The fire originated in the alfalfa meal plant of the Wendell Milling & Elevator Company. Insurance covered loss to stock, but not to buildings, it is reported. The plant will be rebuilt as soon as weather permits.

Cleveland, Ohio.—The 10-story elevator of the Cleveland Grain Company burned on January 11, causing a loss of about $1,000,000 to building and contents. The fire started from an over-heated drier pipe. Seventeen fire companies fought the blaze. The county had bought the building on the day of the fire to make way for a bridge. Insurance amounting to $25,000 had been assigned to the county by the Cleveland Grain Company. The building was valued at $450,000, and the stored grain at $600,000.

OBITUARY

BAKER.—Osman C. Baker, owner of an elevator and feed mill at Ashton, Ill., was found dead in his office on January 11. He was 65 years old. Heart failure caused his death.

BENDER.—William L. Bender, founder of a chain of elevators in Iowa and Dakota, died in New York state at the age of 78 years. He started his first elevator at Spencer, Iowa, in 1875.

BENNETT.—Fred M. Bennett, veteran member of the grain trade, and of late years representative of the Nye-Jenks Grain Company, Chicago, died recently. He was 73 years old.

BRYAN.—Benjamin Bryan, formerly manager of the Farmers Grain & Supply Company at Greensburg, Kan., died January 20. Mr. Bryan retired several years ago.

CHANDLER.—Reuben G. Chandler, member of the Chicago Board of Trade for 50 years, died January 19 following an extended illness. Mr. Chandler was president of the Board in 1903. He retired the first of the year from a partnership in Hulburd, Warren & Chandler.

CHENOWETH.—Lon Chenoweth, who had been connected with the Hammond (Ill.) Grain Company (and the company which preceded it) for 35 years, died late in December of cancer.

CRAHEN.—Eugene J. Crahen, former grain buyer at the Minneapolis Chamber of Commerce, died January 24. He was 42 years old.

FREEMAN.—W. T. Freeman, grain inspector at Texas, and former grain inspector for the Galveston Board of Trade, died recently of heart disease at his home in Texas City. He was 67 years old.

GILLETTE.—Dwight C. Gillette, grain operator at Gerryville, Conn., died January 26 at Colchester. He had been ill for several weeks.

GREIG.—Hugh Scott Greig, grain dealer at Estherville, Iowa, died last month, following a long illness. He was 62 years old.

HALL.—A. J. Hall, former grain dealer at Minneapolis, Minn., died at his home there on January 24. His widow and three sons survive him.

HOLCOMB.—C. E. Holcomb, of the C. E. Holcomb Elevator Company, Buffalo Center, Iowa, died January 22, following a long illness. He was 70 years old.

HOTTELET.—Max Hottelet, pioneer grain and feed dealer at Milwaukee, Wis., died January 17.

HUMPHREYS.—Robert G. Humphreys, who had been active in the grain and hay trade in Baltimore, Md., for several years, died at his home there January 10. He had been associated with Stinton Bros. & Co. and with George E. Morrison & Co. He was 48 years old.

HUTCHINSON.—Harry W. Hutchinson, Federal grain inspector, died of heart failure on January 21 at Alva, Okla., where he had been located since last June. Mr. Hutchinson's home was in Wichita, Kan. His widow and daughter survive him.

JACOBSON.—John Edwin Jacobson, president of the Lexington (Neb.) Mill & Elevator Company, died recently of heart failure. He was 46 years old. His widow and four children survive him.

JOHNSON.—Emil F. Johnson, associated with the Kearney (Neb.) Grain Company, died January 11.

LANKARD.—Fred W. Lankard, vice-president of the Kingfisher (Okla.) Mill & Elevator Company, died January 10 at Oklahoma City. Mr. Lankard was a former vice-president of the Oklahoma Millers Association.

LINN.—W. R. Linn, veteran grain dealer, and member of the Chicago Board of Trade since 1872, died recently. He was 80 years old. Mr. Linn operated a chain of grain elevators at one time.

LOVE.—William Love, a grain and hay dealer at Lowell, Ind., for 45 years, died last month.

MACCAULEY.—R. P. MacCauley, who recently resigned as manager of the Standard Elevator at Granville, Ill., died January 10. Mr. MacCauley had managed the elevator for three years and resigned because of ill health.

MAGILL.—Dr. Robert Magill, secretary of the Winnipeg Grain Exchange, died January 15 at Battle Creek, Mich. He was 57 years old. (See details elsewhere in this issue.)

MILLER.—G. B. Miller, formerly agent for the Atlas Elevator Company, Merrill, Iowa, died recently at Cherokee. He was 52 years old.

MONTGOMERY.—Archibald Montgomery, who was prominent in the activities of the Produce Exchange, N. Y., 10 years ago, died. His widow and two sons survive him.

NICHOLS.—E. E. Nichols, secretary of the Stevens Grain Company, Winnipeg, Man., died a few days ago.

NIKEFOR.—John Nikefor, who was employed by the Globe Elevator Company at Superior, Wis., was suffocated January 20 when he was caught in a pit from which 2,000 bushels of grain were being drawn.

NOLTE.—H. A. Nolte, grain dealer at Elkhorn, Neb., died January 27. He was 76 years old. Mr. Nolte entered the grain business in 1881.

PATRICK—R. L. Patrick, owner and manager of the grain, flour, and feed firm of Foote-Patrick, Laurel, Miss., died recently.

PETERSON.—W. W. Peterson, manager of the Dutton (Mont.) Farmers Elevator Company, died recently.

PETTEYS.—E. E. Petteys, retired secretary of the Farmers Elevator Company at Faribault, Minn., died January 8. He was 70 years old. His widow, two children, and his mother survive him.

POTE.—H. C. Pote, grain operator at Marengo, Iowa, died February 4 of pneumonia. His widow and two daughters survive him.

RYAN.—Martin Ryan, retired grain man and operator of an elevator at Luverne, Minn., for several years, died January 16 at his home in Sioux Falls, S. D. He was 80 years old. His son and four daughters survive him.

SHAW.—Wilbur F. Shaw, who formerly operated a grain and lumber business at Colo, Iowa, died January 6 at his home in Cedar Rapids. His widow and six children survive him.

STONE.—H. A. Stone, manager of the Farmers Union Company at St. Marys, Neb., died suddenly in December. Herman W. Juilfs has succeeded him.

TAYLOR.—George Taylor, manager of the Farmers Elevator at Bennington, Kan., was killed recently in an automobile accident.

TEMPLETON.—James Stuart Templeton, retired veteran member of the Chicago Board of Trade, died February 9 at his home in Evanston, Ill. He was 77 years old.

VINCENT.—C. A. Vincent, president of the Vincent Grain Company, Odell, Ill., died January 26. Mr. Vincent was 88 years old. Three sons survive him.

WATTS.—Charles S. Watts, member of the Minneapolis Chamber of Commerce, since 1890, and connected with the grain trade during his entire business life, died February 4. His widow and two sons survive him.

WEBB.—N. F. Webb, president of the Co-operative Grange League Federation Exchange, Buffalo, N. Y., died January 10 at his home in Cortland. Mr. Webb was 78 years old. His widow and two sons survive him.

WEST.—E. G. West, operator of a grain elevator at Gothenburg, Neb., died.

WHEELER.—William J. Wheeler, retired founder of Wheeler & Company, dealers in grain and feed at Bridgeport, Conn., died late in December at the age of 88 years. His widow, four sons, and a daughter survive him.

WHITE.—William M. White, manager of the Montana Elevator Company at Moore, died recently. His widow and two daughters survive him.

HAY, STRAW AND FEED

Smith Bros. plan to build a feed mixing plant at Pine City, Wash.

The Luckey (Ohio) Farmers Exchange has installed a feed grinder.

Hames Byrne has installed a modern feed grinder in his plant at Coyle, Okla.

The Okolona (Ohio) Grain Company has installed a feeder for its hammer mill.

Evans & Evans recently installed a feed grinder in their plant at Le Sueur, Minn.

Herbert Reach has improved his plant at Oak Grove, Mo., with a new feed grinder.

The Blanchester (Ohio) Coal & Feed Company has sold its business to Norman Irwin.

Briscoe Bros. have completed additions and improvements to their plant at Marlow, Okla.

The National Compound Company has installed a feed mixer in its plant at Sioux Falls, S. D.

H. J. Stoll & Co. has been organized at Portland, Ore., to deal in millfeeds and grain products.

The Arlington (Ohio) Elevator & Supply Company is installing a feed grinder in its plant.

Valker-Christensen Company has installed a molasses feed mixer in its elevator at Minot, N. D.

The Farmers Elevator Company has equipped its plant at Jasper, Minn., with a new feed grinder.

Thomas D. Harlan has installed a feed grinder and pulverizer in his plant at Blue Ridge, Texas.

John Schenk has installed a feed grinder for the grinding of soy beans, in his plant at Welch, Okla.

H. Borgmann has installed a feed grinder in his plant at Osmond, Neb., for grinding poultry and pig feed.

The Western South Dakota Alfalfa Corporation has added a feed grinder to its equipment at Faith, S. D.

B. Charles and his son, C. J. Charles, will again engage in the hay, feed, and coal business at Bryan, Ohio.

The Farmers Elevator Company at Manteno, Ill., has installed a 60-horsepower motor to operate its feed grinder.

The Pirk Flour & Feed Company has equipped its plant at Swanville, Minn., with a feed mixing machine.

A feed grinder has been added to the equipment of the Farmers Grain & Supply Company at St. Paul, Neb.

The Farmers Supply Company has equipped its plant at Earlville, Iowa, with feed grinding machinery.

The New Sharon (Iowa) Mill & Elevator Company plans to install equipment for manufacturing sweet feeds.

The Utah Poultry Producers Association, Payson, Utah, is building a $20,000 brick feed warehouse, 46 by 95 feet.

The Pittsburg (Kan.) Elevator Company is building a molasses mixing plant for the manufacture of sweet feeds.

A feed grinder has been installed in the elevator of the Farmers Grain & Livestock Association at Hordville, Neb.

Spencer Kellogg & Sons, linseed crushers at Buffalo, N. Y., plan to build a branch plant at Bridgeburg, Ont.

The Canadian Soy Bean Products, Ltd., has installed a soy bean manufacturing plant in an old factory building at Ingersoll, Ont.

The Coffeyville (Kan.) Grain Products Company is building a 13,000 gallon concrete tank for the storage of sorghum.

Van Osdel, Frick & Co. have improved their elevator at Missionhill, S. D., with a feed grinder and a gasoline engine.

Frank M. Rosekrans, Jr., son of Frank M., Sr., of the Bertley Company, Chicago, has established a new company, the Lakes Feed & Grain Company, in Minneapolis, Minn.

The Roddis Flour & Feed Company has been operating since early December its new $30,000 plant at Big Lake, Minn.

The Washburn Crosby Company, Inc., has opened a branch at Breckenridge, Minn., which will handle feed, seed, and flour.

The Puralic Dairy Company has been incorporated to manufacture and deal in feeds and dairy products at Defiance, Ohio.

A feed grinder has been installed in the elevator of the Eberts Grain Company at Memphis, Ind. They will do custom grinding.

The Brighton (Colo.) Farmers Co-operative Elevator Company has equipped its plant with a 60-horsepower Jay Bee Feed Grinder.

The Colorado Grain & Bean Company, Sterling, Colo., plans to install a feed mixer. The company will manufacture dairy and poultry feed.

The Dover (Okla.) Mill & Elevator, owned by Bert Evans, has opened a feed store at Kingfisher. Charles Collins, formerly of Marshall, is in charge.

The G. J. Burrer Mill & Elevator Company has improved its elevator at Sunbury, Ohio, with modern grinding equipment. Its elevator at Condit is to be similarly equipped.

A 24-inch feed grinder has been added to the equipment of the Monarch Elevator Company at Holland, Minn. Other improvements consist of a new driveway and a new office.

Anthony Faske is manufacturing dairy and poultry feed with his new electrically-driven machinery. His plant at New Burlington (Mount Healthy p.o.), Ohio, has an hourly capacity of four tons.

The John L. Frank Company has remodeled its plant, at Miles, Iowa, and installed a 24-inch feed grinder with two 25-horsepower motors, a batch mixer with a 10-horsepower motor, and an oat huller.

The Quality Fuel & Feed Company, Juda, Wis., which recently bought the feed grinding business of the Wisconsin Power & Light Company, has built a new building and equipped it with new machinery.

Mans Swartz has purchased the Bolgiano wharf and warehouse property at Baltimore, Md., which was formerly used as a feed mixing plant. Mr. Swartz will remodel the property for general storage purposes.

Sargent & Co., Inc. has completed an addition to its feed manufacturing plant at Des Moines, Iowa, which increases its daily feed capacity about 60 tons. The plant now has a total daily capacity of 120 tons.

Louis Kramr has merged his feed business at West, Texas, with the West Produce Company, operated by R. J. Lichnovsky. They are operating under the name of the West Produce Company and plan to increase their facilities.

The Co-operative Grain & Supply Company, Troy, Ill., has installed a feed grinder in its elevator and will do custom grinding. The City Feed & Produce Company, Canon City, Colo., has been operating in new quarters since the first of the year.

The Dal-Tex Grain Company, Dallas, Texas, is now operating as the Conkey Feed Mills of Texas, a branch of the G. E. Conkey Company, of Cleveland, Ohio. New feed machinery has been added to the plant, and an additional story has been added to the warehouse.

The Lubbock (Texas) Board of City Development is promoting the establishing of feed plants in the Southwest and has appointed a committee of three to analyze plans in operation in southwestern cities. The committee consists of T. B. Duggan, S. C. Arnett, and Jot Smith.

J. P. Parks announces that he will open about April 1 a branch feed brokerage office at Buffalo,

N. Y. The new branch will be conducted in the same way as the offices at Kansas City and Chicago. The company will operate under the name of J. P. Parks, and V. L. Marsh will act as manager.

The Jones-Hettelsater Construction Company, Kansas City, Mo., is building storage additions to the Ralston Purina Company's plants at Kansas City, Mo., Davenport, Iowa, and Buffalo, N. Y. The new units will aggregate 300,000 bushels at Kansas City; 450,000 bushels at Davenport; and 500,000 bushels at Buffalo.

The Federal Feeder Service, Inc., a $1,000,000 feed concern, has been recently organized at Toledo, Ohio. The new company will take over the business of the Frank L. Myers Company which has plants at Morenci, Mich., and South Bend, Ind. They are also negotiating plans for merging with a large grain and feed company at Cincinnati. Contract is to be awarded shortly for the erection of a plant at Toledo. The principals concerned in the new company are H. W. Nieman, president of the Multiplex Company, Elmore, Ohio; Frank L. Myers, of the Frank L. Myers Company, and Charles Kortier. Mr. Kortier, who has owned and operated elevators in northern Ohio for about 25 years, will be vice-president and manager.

FIELD SEEDS

(*Continued from Page 506*)

that with the waters of the flooded streams in the tri-state district receding, the farmers and landowners are preparing to organize in an effort to save their lands from periodical overflows. The report states that appeals will be made to both the state and Federal governments for aid.

CERTIFIED SEED FOR ILLINOIS

More than 15,000 bushels of certified seed wheat were distributed last fall to farmers in the southern Illinois wheat belt by the Missouri-Illinois Crop Improvement Committee, which is largely supported by the mills in that section. This was enough to plant 12,000 acres with fine improved seed wheat, an acreage which will soon supply enough seed wheat for the entire region and make it possible for farmers generally to grow better and more profitable wheat, and for millers to have a constant supply of the kind of wheat they need.

The variety principally distributed is Fulhio, a strain of Fulcaster developed by the Ohio Experiment Station. This variety produced an average of seven bushels per acre more than any other tried in southern Illinois by the University of Illinois, and it has therefore been adopted as the standard for the southern Illinois wheat belt by the committee. Along with the introduction of this variety and dissemination of this quantity of seed, the committee is also working actively for the eradication of garlic from the wheat fields and is making progress in that direction.

This is a constructive achievement on the part of the mills in southern Illinois, which have been aided by the organized farm groups in their territory. This program is just well begun, but worthwhile results are already apparent.

FIELD SEEDS DESCRIBED

Timothy seed, for best results, should be comparatively large in size, plump, of a bright silvery color, free from impurities and very little hulled. It is one of the best seed producers among grasses, and is ready to cut for this purpose when the spikes turn from green to yellow. Threshing is accomplished with the ordinary grain thresher, although the best seed on the market is flail-threshed. The legal weight per measured bushel is 48 pounds.

This description is only one of many contained in Bulletin No. 347, prepared by W. J. Squirrell, a professor at the Ontario Agricultural College, Guelph, Ont. Professor Squirrell describes orchard grass seed as "somewhat boat shaped." It is about one-quarter of an inch in length and possesses short awns. Good seed is of a bright straw color, free from weed seeds, other seeds and dirt. It is ready to cut for seed about three or four weeks after it has flowered and when the seeds are straw colored. The legal weight per bushel is 14 pounds.

The seed of tall oat grass is straw-colored, about three-eighths of an inch in length, has long twisted awns, and in shape resembles hulless oats. The seed which shatters easily should be cut as soon as the panicles turn yellow. The weight per bushel is 12 pounds. The seeds of yellow oat grass resemble those of tall oat but are much smaller in size. They are of a golden yellow color, about three-sixteenths of an inch in length, and have long and very fine awns. The seed is often very impure, usually being obtained from mixtures where yellow oat is one of the ingredients. The weight per bushel is about six pounds.

Meadow fescue seed resembles that of orchard grass but is larger in size and not so pointed. It is awnless and of light brown color. Meadow fescue should be cut for seed as soon as the panicles of the head have turned brown. If left after this period, it shatters badly. It is a large yielder of seed and, under favorable conditions, has been known to produce seed crops for a period of three years. When it is grown for seed production, it is better not to pasture it in the spring. It may be successfully threshed with the ordinary grain thresher. The seed weighs about 25 pounds per measured bushel.

RED TOP

Red Top grass seed is one of the smallest of cultivated grass seeds. It is from $\frac{1}{32}$ to $\frac{1}{16}$ of an inch in length and somewhat boat-shaped. In color it is a glossy light red and is without awns. Commercial seed usually contains considerable chaff, which lessens its weight per bushel. The seed should be cut when it shells easily in the hand. It may be readily threshed in the same manner as Timothy seed. The legal weight is 14 pounds per measured bushel. The seed of perennial rye is described as of a light brown color and shows more lustre than is usually found in the seeds of meadow fescue. In size and shape and in being awnless these two seeds resemble each other, but perennial rye seed is flatter and blunter at the ends. Perennial rye is one of the largest seed producers among grasses. The seed is taken from the second crop when it becomes tough and leathery, which period is usually about one month after flowering. Good seed weighs about 25 pounds per bushel. Italian rye grass seed much resembles that of perennial rye, but may be distinguished from the latter by its long slender awn, and its blunter and flatter appearance. It is also somewhat lighter in color and has less lustre than the seed of this grass. Italian rye grass is usually cut in the late dough stage, as it shatters badly if over-ripe. Like perennial rye, it is a large seed yielder and is just as easily harvested and threshed. This seed weighs from 20 to 25 pounds per measured bushel.

WESTERN RYE

The seed of western rye grass, which is of a bright straw color, is from three-eighths to one-half of an inch long and somewhat resembles small oat grain. These seeds have short straight awns. Western rye, which is one of the easiest of the grasses to harvest and thresh for seed, should be cut when the spikelets become straw colored. The seed weighs about 20 pounds per measured bushel.

The seed of bearded wheat grass resembles western rye grass, but is not quite so long and has slightly greater width. One of the chief points of distinction between this seed and western rye lies in the long stiff-awned characteristic of bearded wheat. This grass is seldom listed by seedsmen, but seed is sometimes obtainable in small quantities through experiment stations. The seed weighs about seven pounds per measured bushel.

White Clover seed is much the same shape as that of Alsike, but is slightly smaller in size. In color it varies from a yellow to an orange red. It is usually obtained from the first crop which, like Alsike, is often pastured for a time in the spring. Seed is ready to cut when the heads have turned a dark brown. The seed shatters easily and requires the greatest care in harvesting. White clover will naturally reproduce itself from seed if not too closely pastured. The legal weight per measured bushel is 60 pounds. Crimson Clover seed is somewhat egg-shaped and almost twice the size of Red Clover seed. Good seed has a uniform pinkish color. Old seed is of a brownish color and generally shrunken. In harvesting, the seed easily shatters if over-ripe and care should be taken to see that the crop is cut in the early morning when the plants are wet with dew. The legal weight per measured bushel is 60 pounds. White Sweet Clover seed is shorter, usually slightly smaller and less kidney-shaped than that of alfalfa. In color it is yellow and has less lustre than this seed. White Sweet Clover seed may be distinguished from the yellow seed of Red Clover by a more distinct notching near the end of the seed and by its characteristic odor. The seed weighs 60 pounds per measured bushel.

KIDNEY-SHAPED SEEDS

Alfalfa seed is kidney-shaped, about one-third larger than Red Clover seed and is yellow in color. The presence of many deadish brown seeds indicates seed of low vitality. The largest seed yields are obtained from the first cutting. Alfalfa should be cut for seed when about one-half of the pods have turned brown. The legal weight per measured bushel is 60 pounds. On account of low vitality of commercial seed, it is often difficult to obtain a good stand of Sainfoin seed. It is sold both as shelled and unshelled seed. The unshelled seed is cheaper and occurs in much greater quantity in commerce than shelled seed. The unshelled seed or seed-pods are flattened and somewhat bean-shaped, the surface being covered with a fine, mesh-like netting. The outer edge of the seed pod has strong sharp teeth. Shelled seed is kidney-shaped, about three-sixteenths of an inch long, of an olive brown color, and weighs 60 pounds per measured bushel.

N. Y. SEED MARKET REPORT

By C. K. TRAFTON

Developments in the New York seed market were disappointing, on the whole, during the period since January 15, the consensus of opinion being that buyers were not showing as much interest as usual for the season. Temporarily, during a brief period of fairly mild weather more inquiries for various kinds were noted, it being evident that buyers were inclined to "feel out" the market, but according to the majority of reports no business of importance resulted. Buyers as a rule appeared to be holding out in hopes of lower prices later on, which reflected fears of bad money conditions among farmers generally and also the depression prevailing in certain industries.

New York seed distributors point out that prices for seeds are already reasonably low and as a consequence there was no general disposition to cut prices materially. Still, it was feared that some holders would accept lower bids rather than lose the small business which might be in sight and for this reason the tone of the market was described as no better than steady and prices quoted for about half-a-dozen varieties are slightly lower than those current a month ago.

Red Clover seed of foreign origin has been somewhat of a feature, the lower price of 17 cents duty-paid, established last month, encouraging a little buying for the purpose of "feeling out" sentiment among farmers toward this variety in view of the fact that the basis is 5½ cents lower than that of a year ago. In addition, it is pointed out that stocks here are light as there were no arrivals during the period and total imports for the past six months were only about 2,100 bags compared with over 15,100 bags for the same period in 1928-1929.

CLOVER SEED UNUSUALLY WEEDY

Clover and Lespedeza seed are abundant this spring, but much of the supply is so full of weed seeds that the Bureau of Plant Industry of the United States Department of Agriculture warns farmers that they must use more than ordinary care in selecting or purchasing seed for spring planting. The weed problem is so serious this year, according to dealers, that the bureau advises farmers to be "sure of the quality of seeds they are sowing, particularly as to purity and freedom from weed seed."

"Above all else," says the bureau, "the farmer should use seed that will produce a Clover crop—not a weed crop. We can not urge too strongly the value of hardy, home-grown Clover seed of adapted varieties for use wherever possible. This is especially true in sections where experience has shown the value of the disease-resistant strains of Clover over imported strains or unadapted strains from other regions. The so-called Tennessee resistant strain of Red Clover produced for several generations in infected territory without change of stock is known to have developed a high degree of resistance to clover anthracnose, and for this reason is especially adapted to the southern clover-growing sections."

Reports to the bureau indicate a large increase in Clover seed production in 1929, especially in sections that have not produced much Clover seed for several years.

The conditions which favored the Clover seed crop this year in many of these states also favored the production of weed seeds, and the bureau advises farmers to be sure of the quality of seeds they are sowing, particularly as to purity and freedom from weed seeds. This advice is especially applicable in sections where the fields are seriously infested with buckhorn and dodder. Both buckhorn and dodder are common, especially in the southern half of the clover producing area, and with the best efforts, considerable time must elapse before a program of weed control can be of much help. Nevertheless, where the farmer is seeding Clover with the expectation of producing seed for sale a vigorous campaign must be waged to cut down the use of weedy Clover seed.

"In order to produce Clover seed for the market the farmer must not only use clean seed but he should endeavor to select for seeding fields that he knows are free from weeds. These fields should

be carefully inspected during the growing season and any weeds, especially dodder and buckhorn, should be removed before harvest time; otherwise the seed produced will not find a ready market. Clover seed that is not clean enough for the commercial trade certainly should not be sold to neighbors for reseeding.

"The situation with respect to weed seeds, especially dodder, applies with equal force to Lespedeza. A large and growing industry has developed in certain sections of the South in the production of seed of the new improved varieties of Lespedeza. The presence of dodder in enormous quantities is a serious menace to the industry. In the summer of 1929 few fields of the improved Lespedeza were free from dodder. In some cases, there was more dodder than Lespedeza. Many growers were inclined to blame the people from whom they had bought their seed. The situation is nothing short of serious. Dodder is perhaps the most generally feared of all noxious weeds, and, if the growers of Lespedeza seed wish to retain a profitable market for their product, they must make a concerted effort to exterminate this pest in the seed fields.

"Because of the value of home grown adapted varieties of Clover the production of home-grown Clover seed should be encouraged in every way possible, but the effort will be useless unless weeds are kept under control."

It is suggested that farmers discuss the Clover seed problem with the county agent and follow his advice regarding the quality of home-grown seed available. County agents, says the department, will help in securing an analysis of seed for weed content as well as for germination if this is found necessary.

SEED NOTES FROM MILWAUKEE

By C. K. TRAFTON

The demand for field seeds is unusually brisk for this season of the year, according to some of the leading Milwaukee handlers who say that the buying volume is and will be far better than for quite a number of years.

* * *

There is quite a little ordinary Red Clover seed available according to the local seedsmen, but the real high grade Clover seed is actually scarce. The buying has been vigorous for February and the price is holding steady.

* * *

The Timothy seed market seems to be rather well supplied although some of the handlers say the supply is moderate. The demand for Timothy seed has been none too good and the trend of the market on the whole has been a little easier for the last month.

* * *

Alsike is going to be the banner seed this year, according to the Milwaukee seedsmen who say that the high grade seed in this line is really scarce and hard to get. The demand for Alsike has been exceptionally active, so that this has helped to sweep the market bare of supplies. The Sweet Clover supply is moderate while the demand has been very good for this early in the season. The alfalfa trade has also firmed up considerably.

* * *

Seed corn looks like a brisk, active market according to the Milwaukee dealers. The predictions now are that good seed will be rather scarce, although it is still too early in the season to be sure of this. The prices for seed corn run mainly from $1.90 to $3.50 with the high prices being paid for choice, Wisconsin-grown seed.

* * *

The average yield of the State's Pride oats has been no less than 62.8 bushels to the acre, while the next highest, White Cross, has averaged around 54.6 bushels to the acre, and Forward has been a close third with an average yield around 53.3 bushels per acre. In addition, the State's Pride variety has also been able to withstand adverse conditions of winds and lack of moisture better than other kinds.

* * *

Wisconsin barley seed growers who for many years have been specializing in the Oderbrucker barley as the best all-around variety for production in this state, are turning to the new barbless variety of barley to a very large extent. With much larger supplies of barbless seed at hand, this kind is going to be immensely popular. The new variety known as the Smooth Awn will be grown to a larger extent in Clark County, for instance, than all other kinds of barley put together. Smooth Awn barley has been giving a yield as high as 57 bushels to the acre as compared with only about 46 bushels on the average for the Oderbrucker barley. It is said also that the new barley is immune to barley stripe.

AWARD ON MILLET SEED

The rate case of the Rudy-Patrick Seed Company against the Abilene & Southern Railway has been decided in favor of the seed firm by the Interstate Commerce Commission.

Rates on millet seed in carloads, from and to points in the western trunk-line and southwestern territories, as well as in Wyoming, Colorado, and New Mexico, were found unreasonable as charged in the complaint.

A reasonable basis for future rates has been prescribed by the commission, and reparation awarded to the Kansas City concern.

SEED CORN WARNING

The poor feed value of this season's excessively wet corn has been pointed out in lengthy statements issued from various state experiment stations. Corn with surplus moisture is not merchantable through most elevators, and as a consequence farm stocks are large and an extra large proportion of the crop is being fed on the farm. The danger in feeding moldy corn is well known and there exists, therefore, a temptation to use some of the off-grade grain as seed.

Using poor quality of grain for seeding purposes is, of course, an even greater menace to the farmer's prosperity than using it indiscriminately as feed. Only good, sound seed, obtained from reliable commercial sources or other dependable agencies, will redeem the loss suffered by corn growers in their 1929 season. This, in brief, is the warning from experiment stations in the corn belt.

BOTANICAL EXPLORERS BRING NEW ALFALFA SEED TO U. S.

Bringing seeds of several new Alfalfa varieties, melons, apples, apricots, almonds and other plants not now grown in the United States, two plant explorers have returned from Europe and Asia, the Department of Agriculture has just announced. Much of their time was spent in Russia, where "every possible co-operation" was given by the authorities, and where the explorers were impressed by the provisions for agricultural research.

One of the principal purposes of the trip was to obtain varieties of Alfalfa which might prove immune from or resistant to bacterial wilt, a disease which is proving serious in the Middle West. Preliminary tests had indicated that varieties from Turkestan and France were somewhat resistant to the disease.

The party left this country early in June, 1929. They landed in France and then proceeded to Leningrad by way of the Baltic Sea. Through the cooperation of the Institute of Applied Botany in Leningrad, arrangements were made for Professor N. Kuleshov, a member of the scientific staff, to accompany them and act as interpreter. The next move was southward by way of Moscow to Kiev where a stop was made to study the investigations in progress at four experiment stations in that vicinity.

From Kiev the explorers went to Saratov, then up the Volga River to Samara. Here they entrained for Tashkent and went on into northeastern Turkestan, almost to the Chinese border. Turning

(*Continued on Page 514*)

southward from Tashkent, they went to Samarkand where the two explorers parted. Dr. Whitehouse went to Persia, where he traveled widely in search of fruits and vegetables.

Mr. Westover continued his journey westward to Bokhara and Chadjui and thence northward across the great Karakum Desert to the Aral Sea. Returning to Chadjui, he again proceeded westward and went to Moscow by way of the Caspian and Black seas. He obtained samples of Alfalfa seed from almost every section of Turkestan and gathered many samples of seed from wild Alfalfa growing in the mountains. He also brought back seeds of many grasses and wild legumes.

URGE PURE HARD WHEAT SEED

The Blackwell (Okla.) Mill & Elevator Company is offering to exchange mixed wheat seed for Hard on a bushel-for-bushel basis.

Owing to its adaptability to the culture of both Hard and Soft wheat, that section of the state has been producing a mixed wheat that cannot properly be classified as either Soft or Hard. This prevented farmers from securing premiums offered on Hard wheat and made milling more expensive as 95 per cent of the flour mills are equipped for milling Hard wheat, according to D. W. Moxon, manager of the Blackwell mill.

The seed to be furnished the farmers by the mill is pure Hard wheat seed shipped from western Oklahoma, Texas and Kansas.

PURE SEED FOR 19,000 ACRES

It can be a matter of nothing but the highest congratulation to those responsible that younger members of the farming community are being encouraged to study their profession and bring to it the most scientific methods, says *Market News*, of Winnipeg. This is a comment on the occasion of the first annual exhibit of the Junior Seed Growers of Manitoba, held in Winnipeg. During its first year the club with a membership of 289 boys raised 28,500 bushels from registered or certified seed, which amount on a general average is enough to sow about 19,000 acres, and which amount should grow rapidly during the next few years.

While it is possible that present congestion of North American wheat supplies might never occur again, still from present indications there appears to be a limit to the amount of wheat which the world will absorb at prices profitable to North American growers. This has led several Canadian authorities to state that the hope of maintaining wheat growing on a par with other branches of industry lies in paying scrupulous attention to seed quality in order that Manitoba Hard wheats may continue to be thought an indispensable part of a well blended flour. The Junior Seed Growers are promoting this end by making available quantities of first rate seed.

EARLY-SEEDED OATS

Oats seeded early yielded more than those seeded later in tests at the Ohio Experiment Station, according to L. E. Thatcher, associate agronomist. There was very little difference in yield of seedings made on the same date on disked land and on similar plowed land. Disking often has the advantage, however, since earlier seeding is generally possible.

In the experiment in 1929 land was plowed for oats April 24, May 17 and 22 and parts were seeded on the day it was plowed and at weekly intervals until May 22. Plots seeded April 24 produced 52 bushels per acre; May 1, 47 bushels; May 8, 44 bushels; May 17, 37 bushels; and May 22, 29 bushels. Land plowed May 17 and seeded the same day produced 7 bushels less than that plowed in April and seeded May 17. Plowing May 22 and seeding the same day produced only 22 bushels.

Land disked and seeded April 24 produced four bushels more per acre than that plowed and seeded on the same day. The yields of oats seeded May 8 on the plowed land and disked land were the same. From May 8 on, however, the yields on the land disked April 24 fell below those for the same dates of plowing and seeding.

In 1928 disking showed a gain over plowing for all dates of seeding. Late seeding in that year did not reduce the yields as much as in 1929. The weather for the two seasons was different, and Mr. Thatcher believes that may account for the difference. In 1928 the spring was cool and dry, in 1929 it was warm and wet.

The loss in yield for each day's delay in planting after April 10 amounted to a little more than a bushel a day, as a seven-year average in experiments conducted by H. L. Borst on the branch experiment farm at Columbus.

The Lake Shore Seed Company, Dunkirk, N. Y., has completed a new addition, 40 by 200 feet, to its property.

W. A. Rice has equipped his new plant at Jerseyville, Ill., with clover and alfalfa seed cleaning equipment.

The North Alabama Seed Company, Florence, Ala., has been acquired by E. L. Koonce and Clyde Murphy. W. L. Holland and V. H. Pollard were the former owners.

An alfalfa seed cleaning and grading plant, as well as a warehouse have been opened at Chaldron, Neb., by the Alfalfa Seed Association.

The Wallace Seed & Produce Company, De Queen, Ark., has succeeded the Wallace & Hughes Seed & Produce Company. Mr. Hughes has disposed of his interests in the company.

The Acadia Seed Company has been recently organized at Crowley, La., to serve the southwestern part of the state. F. M. Milliken, Sr., is president and J. M. Jenkins, Jr., is local manager.

The Sherman-Magnolia Seed Company, Dallas, Texas, has completed seven new steel tanks for bulk storage. The company's expansion has also required a new two-story building for storage and office accommodation which has just recently been completed.

For Sale

MACHINERY

FOR SALE

Car loader, air blast new; very best on the market. Reasonable. Write or wire STANDARD MILL SUPPLY COMPANY, 502 Waldheim Bldg., Kansas City, Missouri.

BARGAIN FOR QUICK SALE

Standard 500-bushel hopper scale with 24-ft. extension rod down to beam on third floor below. In perfect order and cheap. HOLYROOD MILL COMPANY, Holyrood, Kan.

A REAL BARGAIN

Carter Disc Separator for sale, oats from wheat type; capacity 50 to 60 bushels per hour. Nearly new; price $150. Write CULDESAC FLOUR MILLS, Culdesac, Idaho.

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Pulleys, 1,000; all sizes, solid cast iron, wood and steel split. Elevator belts and buckets and supplies. STANDARD MILL SUPPLY COMPANY, 502 Waldheim Building, Kansas City, Mo.

STEAM ENGINE AND BOILER FOR SALE CHEAP

Atlas Corliss 14x36-inch Cylinder Engine in good order. One 72-inch x 16-feet Atlas Tubular Boiler with 70 three-inch flues. HOLYROOD MILL COMPANY, Holyrood, Kan.

ELEVATORS AND MILLS

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Complete 25-barrel Nordyke & Marmon flour mill machinery. Can be shipped anywhere. For further particulars, write I. J. ROSS, Columbus, Ind.

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Grain elevator and feed mill for sale. Private grounds on Frisco. Excellent farming and business community. Terms if desired. N. F. WRIGHT, Miami, Okla.

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We offer for sale one of the best elevators and retail businesses in the state of Oklahoma, a 50,000-bushel elevator, equipped with cleaner, clipper and 3,000-bushel hopper scale. A 30'x70' iron clad warehouse, with Williams Hammer Mill. Retail business now being done totals $10,000 to $15,000 monthly. Most advantageous billing—works to Minneapolis, Kansas City and Texas points. The most valuable trackage in the city. Located in a growing, prosperous community, Frederick, Okla. Wire or write LEO POTISHMAN, Fort Worth, Texas.

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Position as manager for a farmers' elevator company. Have had 10 years' experience in elevator work and can give best of references. Can come at once. A. P. RANKIN, Claire City, S. D.

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WANTED

Experienced grain buyer desires position with responsible grain company or individual. Competent to handle side lines. References. WM. ALEXANDER, Spencer, S. D.

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